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Part II

Environmental Protection Agency

40 CFR Part 268

Hazardous Waste Management System: Land Disposal Restrictions; DOE Mixed Wastes Extension Application

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 268

[SWH-FRL-4133-2]

Hazardous Waste Management System: Land Disposal Restrictions (LDR); DOE Mixed Wastes Extension Application

AGENCY: Environmental Protection Agency (EPA).

ACTION: Notice of proposed decision on request for an extension of the LDR effective date for certain mixed wastes.

SUMMARY: The U.S. Department of Energy (DOE) has applied for a one-year case-by-case extension, under 40 CFR 268.5, of the May 8, 1992, effective date of the Land Disposal Restrictions (LDR) applicable to Third Third mixed radioactive/hazardous wastes generated/stored at 31 of its facilities. EPA is proposing to find that, for the mixed wastes addressed in the application, that DOE has made all but one of the demonstrations required for such an extension. EPA is considering, and seeking comment at this time on, approaches through which DOE might be able to address the remaining demonstration, that of a contractual commitment to construct or otherwise provide treatment capability.

DOE has requested the case-by-case (CBC) extension due to a shortage of capacity for treatment of radioactive mixed wastes.

All the mixed wastes for which DOE is currently requesting an LDR effective date extension are Third Third mixed wastes. (Third Third mixed wastes are among the final third of hazardous wastes restricted according to the schedule specified in Section 3004(g) of the Resource Conservation and Recovery Act as amended by the Hazardous and Solid Waste Amendments of 1984.) The DOE application does not include solvents, dioxins, and California List wastes for which earlier treatment standards were set (51 FR 40572, 52 FR 25760). Treatment standards for Third Third mixed wastes were specified in EPA's June 1, 1990, Third Third LDR rule (55 FR 22520). Third Third mixed wastes are currently the subject of a two-year LDR national capacity variance granted by EPA (55 FR 22532). This variance expires, and the LDR treatment standards become effective for mixed wastes on May 8, 1992.

In its application, DOE stated that it would request a second extension. Although this proposed decision is for one year, the review by EPA has considered the impact of granting a second extension.

DATES: Comments on this Notice must be submitted on or before July 27, 1992.

ADDRESSES: Any person wishing to comment on this proposal must send an original and two copies of the comment to the EPA RCRA Docket (OS-305), U.S. Environmental Protection Agency, 401 M Street, SW.., Washington, DC 20460. Place the Docket Number F-92-ECPP-FFFFF on all copies of the comments. Materials supporting or otherwise relating to the proposal are contained in the EPA RCRA Docket which is located in room 2427, 401 M Street, SW., Washington, DC 20460. The docket is open from 9 a.m. to 4 p.m., Monday through Friday, except for Federal holidays. An appointment must be made to review docket materials by calling (202) 475-9327. The public may copy a maximum of 100 pages from any regulatory document at no cost. Additional copies cost $0.15 per page.

FOR FURTHER INFORMATION CONTACT: For general information contact the RCRA Hotline, Office of Solid Waste (OS-300), U.S. Environmental Protection Agency, 401 M Street, SW., Washington, DC 20460; telephone (800) 424-9346 toll-free or (202) 382-3000 locally. For information on specific aspects of this Notice, contact William J. Kline, Office of Solid Waste, Capacity Programs Branch (OS-321W), U.S. Environmental Protection Agency, 401 M Street, SW., Washington, DC 20460; telephone (703) 308-8440.

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29. Weldon Spring Remedial Action Project (WELD)
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31. Y–12 Plant (Y–12)

I. Background

A. Congressional Mandate

On November 8, 1984, Congress enacted the Hazardous and Solid Waste Amendments (HSWA) which amended the Resource Conservation and Recovery Act (RCRA), imposing additional responsibilities on persons managing hazardous wastes. Among other things, HSWA required EPA to develop regulations that would require treatment of hazardous wastes prior to disposal and put restrictions on the land disposal of untreated hazardous wastes. In particular, sections 3004 (d) through (g) of RCRA, a amended, prohibit the land disposal of certain hazardous wastes after specified dates unless these wastes have been treated to meet the EPA-specified treatment standards. More specifically, section 3004(g)(4)(C) prohibits the land disposal, without prior treatment, of those hazardous wastes included in the Third Third of the scheduled wastes (which includes certain mixed radioactive/hazardous wastes), effective 66 months after the enactment of HSWA (May 8, 1990). The treatment standards established under section 3004(m) require EPA to set "levels or methods of treatment, if any, which substantially diminish the toxicity of the waste or substantially reduce the likelihood of migration of hazardous constituents from the waste or that short-term and long-term threats to human health and the environment are minimized."

Congress recognized that in some cases adequate treatment capacity which is protective of human health and the environment might not be available by the applicable statutory effective dates and authorized EPA to grant a nationwide variance (based on the earliest date that such capacity will be available, but not to exceed two years) from the effective date that would otherwise apply to specific hazardous wastes. On June 1, 1990, EPA promulgated a final rule to establish treatment standards for the Third Third wastes (55 FR 22520). A two-year national capacity variance was granted for mixed wastes, establishing an effective date of May 8, 1992 (55 FR 22532 and 22689).

In addition, section 3004(h)(3) authorized EPA to grant additional extensions of the statutory deadlines, on a case-by-case basis, for up to one year. These extensions are renewable once for up to one additional year. On November 7, 1986, EPA published a final rule (51 FR 40572) establishing the regulatory framework to implement the LDR program, including the framwork for the application process, and promulgated the procedures for submitting case-by-case extension applications. This rule was codified at 40 CFR 268.5.

B. Demonstrations Evaluated During Application Review

Case-by-case extension applications must meet the requirements outlined in 40 CFR 268.5. These requirements include those specified in RCRA section 3004(h)(3): The applicant must have entered into a binding contractual commitment to construct or otherwise provide alternative capacity (40 CFR 268.5(a)(2)); the applicant must show that due to circumstances beyond his control, this alternative capacity cannot reasonably be made available by the applicable effective date (40 CFR 268.5(a)(3)); and, if the waste is being managed in a surface impoundment or landfill during the extension period, the unit must meet the minimum technological requirements for these units (40 CFR 258.5(a)(7)).

In addition, EPA has established by regulation other requirements: The applicant must demonstrate that he has made a good-faith effort to locate and contract with treatment, recovery, or disposal facilities nationwide to manage his waste (40 CFR 268.5(a)(1)); the applicant must show that the alternative capacity will be sufficient to manage the entire quantity of waste (40 CFR 268.5(a)(4)); the applicant must submit a schedule for obtaining required operating and construction permits or an outline of how and when alternative capacity will be available (40 CFR 268.5(a)(5)); and the applicant must show that he has arranged for sufficient capacity to manage the entire quantity of waste which is the subject of his application during the requested extension period, and to document in his case-by-case application the location of all facilities at which the waste will be managed (40 CFR 268.5(a)(6)).

After these demonstrations are satisfied, and after providing notice and opportunity for public comment and consultation with appropriate State agencies in all affected States (for the purposes of implementing 40 CFR 268.5 defined as those States with responsibility for regulating the applicant's RCRA facilities), the Administrator may, on a case-by-case basis, grant an extension of the effective date for up to one year. An extension may be renewed once for no more than one additional year.

After an applicant has been granted a case-by-case extension, the applicant is required to keep EPA informed of the progress being made towards obtaining adequate alternative capacity. Any change in the demonstrations made in the application must be reported immediately to EPA (40 CFR 268.5(f)). The applicant must also submit progress reports which describe the progress being made towards obtaining adequate alternative capacity, identify any delay or possible delay in developing the capacity, and describe any mitigating actions being taken in response to such delays (40 CFR 268.5(g)).

II. DOE's Case-by-Case Petition

A. Overview

1. Basis for Petition

DOE has submitted an application for a case-by-case LDR extension for certain types of mixed wastes generated at 31 of its facilities. Mixed wastes are those wastes that contain both radioactive constituents subject to the Atomic Energy Act (AEA), and constituents that are either listed as a hazardous waste in subpart D of 40 CFR part 261, or exhibit any of the hazardous waste characteristics identified in subpart C of 40 CFR part 261. Hazardous portions of mixed wastes are subject to

RCRA regulations while the radioactive component is regulated under the AEA.

As part of its mission, DOE owns and operates facilities nationwide that engage in research and production activities in the areas of nuclear weapons, energy, and medicine. Such facilities have been operated by DOE and its predecessor agencies since the early 1940s, and the generation of mixed waste has long been a consequence of their activities. DOE also has been storing and treating mixed wastes for many years.

DOE is requesting the case-by-case extension for Third Third mixed wastes generated at the following 31 facilities:

1. Argonne National Laboratory—East (ANL–E); Argonne, Illinois
2. Argonne National Laboratory—West (ANL–W); Idaho Falls, Idaho
3. Bettis Atomic Power Laboratory (BAPL); West Mifflin, Pennsylvania
4. Brookhaven National Laboratory (BNL); Upton, New York
5. Colonie Interim Storage Site (CISS); Colonie, New York
6. Energy Technology and Engineering Center (ETEC); Canoga Park, California
7. Feed Materials Production Center (FMPC); Fernald, Ohio (Now: Fernald Environmental Management Project)
8. Fermi National Accelerator Laboratory (FNAL); Batavia, Illinois
9. Hanford Site (Hanford); Richland, Washington
10. Idaho National Engineering Laboratory (INEL); Idaho Falls, Idaho
11. Inhalation Toxicology Research Institute (ITRI); Albuquerque, New Mexico
12. K–25; Oak Ridge, Tennessee
13. Kansas City Plant (KCP); Kansas City, Missouri
14. Knolls Atomic Power Laboratory—Kesselring Site (KAPL–KS); West Milton, New York
15. Knolls Atomic Power Laboratory (KAPL); Niskayuna, New York
16. Lawrence Berkeley Laboratory (LBL); Berkeley, California
17. Lawrence Livermore National Laboratory (LLNL); Livermore, California
18. Los Alamos National Laboratory (LANL); Los Alamos, New Mexico
19. Mound Plant (Mound); Miamisburg, Ohio
20. Naval Reactor Facility (NRF); Idaho Falls, Idaho
21. Oak Ridge National Laboratory (ORNL); Oak Ridge, Tennessee
22. Paducah Gaseous Diffusion Plant (PGDP); Paducah, Kentucky
23. Pantex Plant (Pantex); Amarillo, Texas
24. Portsmouth Gaseous Diffusion Plant (PORTS); Piketon, Ohio
25. Rocky Flats Plant (RFP); Golden, Colorado
26. Sandia National Laboratories—Albuquerque (SNLA); Albuquerque, New Mexico
27. Sandia National Laboratories—Livermore (SNLL); Livermore, California
28. Savannah River Site (SRS); Aiken, South Carolina
29. Weldon Spring Remedial Action Project (WELD); St. Charles, Missouri
30. West Valley Demonstration Project (WVDP); West Valley, New York
31. Y–12 Plant (Y–12); Oak Ridge, Tennessee

The application relates to mixed wastes that DOE expects to generate or place in storage after May 8, 1992, and for which DOE will not have sufficient treatment, recovery, or protective disposal capacity by the date.[1]

In its original application, DOE requested the extension for 214 mixed wastes at 28 facilities. In an amendment dated January 15, 1992, DOE requested an extension for 143 additional mixed waste streams of which 142 are no longer generated. These 142 mixed waste streams, together with the already generated quantities of the 214 mixed waste streams identified in DOE's original application, were or are to be placed into storage before the May 8, 1992, LDR effective date. If placed into storage prior to the effective date, such wastes are not subject to the storage prohibition unless they are removed from storage. DOE believes it may be necessary in the future to manage these wastes in a manner that constitutes removal from storage while they await proper treatment. These mixed wastes would then become subject to the LDR storage prohibition, and DOE is therefore requesting a case-by-case (CBC) extension for these mixed wastes.

In the application amendment, DOE identified four additional facilities which in the past have generated 35 of the no longer generated mixed wastes. The remainder were generated at facilities previously identified in the application. One additional mixed waste, identified at Idaho National Engineering Laboratory (INEL), is expected to continue to be generated after the effective date.

Subsequently, DOE requested withdrawal of five low level mixed wastes from its application. These include:(1) Radioactively contaminated lead in Treatability Group 12; and (2) radioactive and RCRA-contaminated re-entry mining waste in Treatability Group 14. Both of these mixed wastes are generated at the Nevada Test Site (NTS), and were the only ones at NTS for which DOE requested a case-by-case extension. Therefore, DOE has withdrawn NTS from its application. In addition, DOE requested withdrawal of all three mixed wastes in Treatability Group 15 which require metals recovery as the treatment technology. Thus DOE's application now requests an extension of the LDR effective date for 352 mixed wastes (309 low level, 41 transuranic, two high level) at 31 facilities.

The mixed wastes are described by EPA waste codes and DOE-established treatability groups in the appendix of this Notice. Details of the mixed wastes are contained in the appendices of the application. The application, amendment, appendices, and other supporting information are available for inspection in the EPA Docket.

DOE also advised EPA that it intends to request a renewal of the extension for a second twelve month period as provided for in 40 CFR 268.5(e).

2. Approach Used by DOE

DOE's approach in applying for a case-by-case extension was to apply for an extension for all DOE sites generating mixed wastes for which treatment capacity is presently lacking. As a result, DOE collected information from all sites on current and planned mixed waste generation, storage, treatment, recovery, and disposal. DOE then compiled this information to perform the demonstrations required under 40 CFR 268.5(a) for each mixed waste at each facility.

DOE utilized the following steps in applying for the case-by-case extension.

a. Identifying and quantifying DOE's mixed wastes requiring treatment or recovery to meet LDR standards. DOE collected and compiled data on mixed wastes so that it could determine the LDR treatment requirements for each mixed waste. DOE included data on the EPA waste codes, the physical and chemical characteristics of the wastes, the waste matrix, the radiological classification of the wastes, whether the wastes are still generated, the generation rate, and the quantities in storage. Each mixed waste stream was classified according to its various characteristics and treatment requirements. As a result of this effort, DOE classified the mixed wastes into separate categories, known as treatability groups, with distinct LDR treatment and recovery requirements.

b. Identifying and Quantifying DOE's CBC-applicable mixed wastes. DOE reviewed each treatability group to determine whether the wastes were subject to LDR requirements for California List wastes or Solvents and Dioxins wastes. Wastes subject to those requirements are ineligible for an extension. DOE then categorized the remaining mixed wastes as to whether future generation was anticipated. Wastes that were generated in the past, but were not projected to be generated after the May 8, 1992, LDR effective date

[1] Under section 3004 of RCRA, land disposal of these Third Third mixed wastes is prohibited after the LDR effective date (May 8, 1992) except for methods of disposal determined by EPA to be protective of human health and the environment.

for Third Third wastes are not subject to land disposal restrictions and do not require an extension unless they are later re-managed (e.g., removed from storage). The remaining wastes were then included in DOE's original application.

In its amendment to the application, DOE identified certain no longer generated mixed wastes that may require management during the proposed extension period. Such management would involve replacement in or on the land and therefore trigger the LDR requirements including the storage prohibition of section 3004(j) of RCRA. These mixed wastes were subsequently categorized by DOE as CBC-applicable mixed waste and added to the LDR case-by-case extension request. Altogether, DOE has identified a total of 352 mixed wastes as CBC-applicable mixed waste at 31 different facilities.

These mixed waste streams then were categorized into 21 distinct treatability groups based on physical and chemical characteristics. DOE further categorized the mixed wastes according to radioactivity characteristics as low level, transuranic, or high level. DOE has categorized the first 18 treatability groups as low level mixed wastes. However, subsequent to this categorization, DOE determined that the mixed wastes in Treatability Group 15 non-CBC-applicable and has withdrawn them. Two other treatability groups are specific to high level mixed wastes, and one treatability group is specific to transuranic mixed wastes.

The treatability groups, affected facilities, number of waste streams, generation rates, and inventories are shown in Table A-1, "Summary of Treatability Groups and Affected Facilities." Tables and appendices in the application and amendment (available in the RCRA Docket) provide detailed listings and cross-listings of all the mixed wastes and treatability groups.

DOE has defined the treatability groups as follows.

(1) Treatability Group No. 1—Ignitable Liquids—TOC > 10 Percent.

TABLE A-1.—SUMMARY OF TREATABILITY GROUPS AND AFFECTED FACILITIES

Treatability groups	Affected facilities[1]	Number of mixed waste streams	Total generation rate-m^3/yr	Total inventory as of 5/8/92 m^3
1. LLW Ignitable Liquids TOC > 10%	BNL, FMPC, HANFORD, CISS, ITRI, RFP, INEL, ORNL, PGDP, MOUND, WELD, PORTS, SRS, ANL-E, PANTEX, WVDP	39	208	412
2. LLW P&U Listed Organic Nonwastewaters	ORNL, FMPC, WELD	5	0.2	5
3. LLW P&U Listed Organic Nonwastewater-C, H, O.	ORNL, ANL-E	4	0.1	4
4. LLW TC Metal Nonignitable Organic Liquid	FMPC, INEL, PGDP, BAPL, CISS, PORTS	15	44	87
5. LLW LDR Appendix IV Labpacks and LLW LDR Appendix V Labpacks.	LANL, INEL, ORNL	7	3	16
6. LLW TC Metal Organic Solid Debris	FMPC, HANFORD, INEL, ANL-E, LANL, ORNL, PGDP, RFP, NRF, WELD, SRS	35	45	907
7. LLW RMW PCB Solids—50ppm < PCB < 500ppm.	HANFORD, PGDP, Y-12, K-25	4	23	121
8. LLW TC Metal Nonwastewaters	ANL-E, ANL-W, FMPC, LANL, RFP, SRS, HANFORD, INEL, K-25, LBL, ORNL, WELD, PGDP, PORTS, SNLL, WVDP, Y-12, BAPL, CISS	71	620	4,295
9. LLW F005, F007, F008, F009 Nonwastewaters.	RFP, SRS, Y-12, CISS, K-25	13	6,702	48,053
10. LLW P&U Listed Inorganic Cyanide Nonwastewaters.	ORNL	1	0.001	0.003
11. LLW Ignitable and/or Water Reactives	ANL-W, HANFORD, ORNL, LANL, SNLA, Y-12, INEL	14	6	38
12. LLW Radioactive Lead Solids	ANL-E, ANL-W, BAPL, ETEC, HANFORD, SNLA, SRS, INEL, KAPL, KCP, KAPL-KS, LANL, FMPC, K-25, LBL, MOUND, ORNL, PGDP, RFP, WVDP, LANL, NRF, WELD	37	104	946
13. LLW TC Metal Inorganic Solid Debris	ANL-W, FERMI, FMPC, HANFORD, INEL, KAPL, KCP, KAPL-KS, LANL, LLNL, PGDP, NRF, PORTS, PANTEX, RFP, SNLA, SRS, CISS	48	165	720
14. LLW TC Metal Soil	HANFORD, FMPC, K-25, SRS, Y-12, PORTS	7	0.1	411
15. (2)				
16. LLW TC Metal Wastewaters	SRS, FMPC, INEL	7	810	1,423
17. LLW TC Pesticide Nonwastewater	WELD	1	0	0.2
18. LLW Unquantifiable P&U Listed Organic Wastewaters—C, H, O.	INEL	1	11,060	N/A[3]
19., 20. HLW	INEL	2	2,965	11,558
21. TRU	ANL-E, ANL-W, ETEC, HANFORD, INEL, LLNL, MOUND, ORNL, RFP, SNLA, SRS, WVDP	41	138	1,808

NOTES: (1) For legends refer to facilities listings in Section II (Overview). (2) Treatability Group No. 15 is non-CBC applicable. (3) Treated as Generated; See Section II.D-10.

This treatability group is defined in the Third Third LDR rule (55 FR 22543) as liquid wastes that exhibit the characteristic of ignitability (D001) and have a total organic carbon (TOC) content greater than or equal to 10 percent. Some of the low level mixed wastes within this treatability group also exhibit the characteristics of corrosivity (D002) and/or toxicity for metals (D004–D011). The LDR treatment standard for these wastes is the technology-based standard of either incineration, fuel substitution, or organics recovery. Due to the radioactive component of mixed waste, DOE believes that incineration is the most viable technology for this treatability group. Therefore, DOE is seeking to demonstrate that sufficient treatment capacity will exist for mixed wastes in this treatability group by documenting its efforts to provide incineration facilities.

The incinerator ash from treatment of the mixed wastes that exhibit the toxicity characteristic (TC) for metals would be required to meet the applicable LDR treatment standards for the metals. Such ash is essentially a new

mixed waste that would be within Treatability Group No. 8, Low Level Mixed Waste TC Metal Nonwastewater.

(2) Treatability Group No. 2—Low Level Mixed Waste P&U Listed Organic Nonwastewaters. The Third Third LDR rule (55 FR 22601) established concentration-based treatment standards for the nonwastewater forms of numerous P&U Listed Organics. This treatability group includes all nonwastewater low level mixed wastes that contain any one or more of the P&U Listed Organics. DOE's mixed wastes within this group are typically small volumes generated from the cleanout of expired laboratory chemicals. Incineration is identified as the best demonstrated available technology (BDAT) for these wastes in LDR regulations. Therefore, DOE is seeking to demonstrate that sufficient treatment capacity will exist for this treatability group by documenting its efforts to provide incineration facilities.

(3) Treatability Group No. 3—Low Level Mixed Waste Unquantifiable P&U Listed Organic Nonwastewaters—C, H, O. The Third Third LDR rule (55 FR 22611) established technology-based treatment standards for the nonwastewater forms of numerous P&U Listed Organics that only contain carbon, hydrogen, and oxygen (C, H, O) in their molecular structure. This treatability group includes all nonwastewater mixed wastes which contain any one or more of those constituents. DOE's mixed wastes within this group are typically small volumes generated from the cleanout of expired laboratory chemicals.

The LDR regulations require treatment of these wastes by either incineration or fuel substitution. Due to the radioactive component of mixed waste, DOE believes that incineration is the most viable technology for this treatability group. Therefore, DOE is seeking to demonstrate that sufficient treatment capacity will exist for this treatability group by documenting its efforts to provide incineration facilities.

(4) Treatability Group No. 4—Low Level Mixed Waste TC Metal Nonignitable Organic Liquid. This treatability group includes all organic low level mixed wastes that exhibit the characteristic of toxicity due to metals (D004–D011) and/or corrosivity (D002). The organic liquids in these mixed wastes, absent the metals and/or corrosive characteristics, are not RCRA-regulated wastes. DOE states that its mixed wastes within this treatability group are typically waste oils contaminated with TC metals.

This specific waste matrix is not addressed in the Third Third LDR rule. By definition, mixed waste within this group are considered nonwastewaters and are subject to the concentration-based treatment standards for nonwastewaters (except for D009, for which DOE currently has not identified any such CBC-applicable mixed waste) as discussed for Treatability Group No. 8, Low Level Mixed Waste TC Metal Nonwastewaters. DOE plans to incinerate mixed wastes within this treatability group and is seeking to demonstrate that sufficient treatment capacity will exist for this treatability group by documenting its efforts to provide incineration facilities.

The incinerator ash would be required to meet the applicable LDR treatment standards for TC metals. Such ash would be within Treatability Group No. 8, Low Level Mixed Waste TC Metal Nonwastewaters.

(5) Treatability Group No. 5—Low Level Mixed Waste LDR Appendix IV Labpacks and Low Level Mixed Waste LDR Appendix V Labpacks. The Third Third LDR rule (55 FR 22629) established treatment standards for two different labpack categories. The hazardous constituents (e.g., EPA waste codes) allowed in labpacks within these treatability groups are specified in appendices IV and V of 40 CFR part 268. Both LDR appendix IV and V labpacks may contain numerous P, U, F, and K listed wastes. Both may also contain wasted exhibiting the characteristics of ignitability (D001), and toxicity due to halogenated pesticides (D012–D017). However, only LDR appendix IV labpacks may contain wastes exhibiting the characteristics of corrosivity (D002), reactivity (D003), and toxicity due to metals (D004–D008, D010, D011). Wastes that are characteristically toxic due to mercury (D009) are not allowed in either LDR appendix IV or V labpacks. Commingling of unregulated (nonhazardous) wastes and hazardous wastes that already meet treatment standards is allowed in both LDR appendix IV and V labpacks.

The technology-based treatment standards require incineration for both LDR appendices IV and V labpack treatability groups. Therefore, DOE is seeking to demonstrate that sufficient treatment capacity will exist for this treatability group by documenting its efforts to provide incineration facilities. The incinerator ash from treatment of LDR appendix IV labpacks that contains one or more of the TC metals (D004–D008, D010, D011) also requires subsequent treatment to meet the applicable LDR treatment standards for the metals. Such ash is essentially a new mixed waste that would be within Treatability Group No. 8, Low Level Mixed Waste TC Metal Nonwastewaters.

(6) Treatability Group No. 6—Low Level Mixed Waste TC Metal Organic Solid Debris. This treatability group includes all low level mixed wastes that exhibit the characteristic of toxicity due to metals (D004–D011) with matrices that are predominantly organic solid debris material. However, the matrices of some of the mixed wastes consist of a combination of both organic and inorganic solid debris (see Treatability Group No. 13). Examples of mixed wastes within this treatability group include materials generated from facility maintenance and spill cleanups (e.g., rags, paper), filter media, and lead-lined gloves. Some of the mixed wastes within this treatability group are also corrosive (D002) and/or ignitable (D001). This group also includes one Savannah River Site mixed waste that consists of filter paper contaminated with F006 waste.

By definition, mixed wastes within this group are nonwastewaters and are subject to the same treatment standards for metals as discussed below for Treatability Group No. 8, Low Level Mixed Waste TC Metal Nonwastewaters. However, as discussed in the Third Third LDR rule (55 FR 22555), incineration may be a first step in the treatment of this treatability group. Therefore, DOE is seeking to demonstrate that sufficient treatment capacity will exist for this treatability group by documenting its efforts to provide incineration facilities. As noted above, the matrices of some mixed wastes within this group are a mix of organic and inorganic debris. Sorting of these mixed wastes may be a necessary step prior to incineration.

As with the ash generated from incineration of wastes in other treatability groups, incineration residues from wastes in this treatability group would require subsequent treatment to meet the applicable LDR treatment standards for the metals. Such ash would be within Treatability Group No. 8, Low Level Mixed Waste TC Metal Nonwastewaters.

(7) Treatability Group No. 7—Low Level Mixed Waste PCB Solids—50 ppm<PCB <500 ppm. This treatability group includes all low level mixed wastes with solid matrices that contain polychlorinated biphenyls (PCBs) in concentrations greater than or equal to 50 ppm and less than 500 ppm. The mixed wastes within this treatability group are primarily PCB-contaminated sludges and soils that exhibit the characteristic of toxicity due to metals (D004–D011).

Regardless of the applicable EPA waste codes, the determining factor for categorizing a mixed waste into this treatability group is the presence of PCBs. The Toxic Substance Control Act (TSCA) regulations in 40 CFR 761.60 require that non-liquid wastes with PCBs in the 50 to 500 ppm range be incinerated in compliance with 40 CFR 761.70 or placed in a chemical waste landfill which complies with 40 CFR 761.75. Since the wastes within this treatability group are also RCRA hazardous wastes, treatment prior to disposal is necessary to comply with the land disposal restriction as well. DOE plans to use incineration to destroy the PCBs. Therefore, DOE is seeking to demonstrate that sufficient treatment capacity will exist for this treatability group by documenting its efforts to provide incineration facilities.

The residues generated from treatment of wastes in this treatability group that exhibit the characteristic of toxicity for metals would require subsequent treatment to meet the applicable LDR treatment standards for the metals. Such residues, like others from Treatability Groups 4, 5, and 6, would be within Treatability Group No. 8, Low Level Mixed Waste TC Metal Nonwastewaters.

(8) Treatability Group No. 8—Low Level Mixed Waste TC Metal Nonwastewaters. This treatability group includes all nonwastewater low level mixed wastes that exhibit the characteristic of toxicity for one or more of the metals (D004–D011) and are not within any of the groups discussed elsewhere in this section for specific waste forms. Examples of low level mixed wastes within this treatability group are dry or wet solids, such as incinerator ash, or sludges and filter cakes from wastewater treatment and other processes. Some of the mixed wastes may also exhibit the characteristics of corrosivity (D002) and/or ignitability (D001).

Except for wastes that are characteristically toxic for mercury, certain high level mixed wastes, and lead solids, the Third Third LDR rule (55 FR 22555–22575) established concentration-based treatment standards for the nonwastewater forms of waste containing each of the TC metals. Two treatment standards were established for nonwastewaters containing mercury (D009). The treatment standard is concentration-based for those with total mercury concentrations less than 260 milligrams per kilogram (mg/kg), while the treatment standard is technology-based for those with total mercury concentrations greater than or equal to 260 mg/kg.

The applicable BDATs for achieving the concentration-based standards are as follows:

- Vitrification for wastes that are characteristically toxic for arsenic (D004);
- Conventional stabilization for wastes that are characteristically toxic for barium (D005), cadmium (D006), lead (D008), selenium (D010), and silver (D011);
- Reduction (if necessary) followed by conventional stabilization for wastes that are characteristically toxic for chromium (D007); and
- Acid leaching followed by chemical precipitation for wastes that are characteristically toxic for mercury (D009) but with total mercury concentrations less than 260 mg/kg.

The specified technologies for wastes that are characteristically toxic for mercury (D009) and have total mercury concentrations greater than or equal to 260 mg/kg are roasting or retorting.

DOE is seeking to demonstrate that sufficient treatment capacity will exist for this treatability group by documenting its efforts to provide stabilization facilities. However, the low level mixed wastes within this treatability group that are characteristically toxic for arsenic (D004), chromium (D007), or mercury (D009) may also require pre-treatment by one of the other technologies discussed above. In the event that pre-treatment would be necessary for any of these, DOE would provide that treatment capacity as a step in the stabilization process.

(9) Treatability Group No. 9—Low Level Mixed Waste F006, F007, F008, F009 Nonwastewaters. This treatability group includes all nonwastewater low level mixed wastes for which any one or more of the EPA waste codes F006, F007, F008, and F009 apply. The mixed wastes in this treatability group typically consist of sludges and filter cakes from the treatment of spent plating solutions.

Treatment standards for metals in F006 nonwastewaters were promulgated in the First Third LDR rule (53 FR 31152), while treatment standards for cyanides in F006 nonwastewaters were promulgated in the Second Third LDR rule (54 FR 22611). Treatment standards for metals and cyanides in F007, F008, and F009 nonwastewaters were also promulgated in the Second Third LDR rule (54 FR 22611). The same concentration-based standards were set for cyanides and the various metals for all four EPA waste codes.

The BDAT for achieving the cyanide standards for all four EPA waste codes is alkaline chlorination. The BDAT for achieving the metal standards for all four EPA waste codes is stabilization. DOE stated that it believes some of the mixed wastes (e.g., pondcrete and saltcrete at Rocky Flats Plant (RFP)) within this treatability group already meet the treatment standards for cyanides without additional treatment. Therefore, DOE is seeking to demonstrate that sufficient capacity will exist for this treatability group by documenting its efforts to provide stabilization facilities. If some mixed wastes are determined to require treatment to meet the cyanide standards, DOE states this capacity would be provided by the planned facilities.

(10) Treatability Group No. 10—Low Level Mixed Waste P & U Listed Inorganic Cyanide Nonwastewaters. The Second Third LDR rule (54 FR 22814) established concentration-based treatment standards for the nonwastewater forms of numerous P listed, cyanide-containing inorganics. This treatability group includes all nonwastewater low level mixed wastes that contain any one or more of those constituents. The mixed wastes within this group are typically small volumes generated from the cleanout of expired laboratory chemicals.

Concentration-based treatment standards were established for the cyanides and the metal cation, if regulated. The BDAT for achieving the cyanide standards is electrolytic oxidation followed by alkaline chlorination. The BDAT for achieving the metal standards, if regulated, is stabilization. DOE is seeking to demonstrate that sufficient capacity will exist for this treatability group by documenting its efforts to provide cyanide destruction and stabilization facilities.

(11) Treatability Group No. 11—Low Level Mixed Waste Ignitable and/or Water Reactives. This treatability group includes all low level mixed wastes that exhibit the characteristics of reactivity as defined in 40 CFR 261.23(a) (2), (3), and (4) (55 FR 22553), and those low level mixed wastes that exhibit the characteristics of ignitability as defined in 40 CFR 261.21(a)(2) (55 FR 22545). These low level mixed wastes are those that ignite upon contact with water or can generate toxic or explosive gases when combined with water. Examples of these wastes are those consisting of bulk alkali metals and equipment contaminated with alkali metals.

The treatment standard established for this treatability group is deactivation to remove the characteristics of reactivity and ignitability. Suggested technologies to remove the characteristics of reactivity and ignitability include controlled reactions with water, incineration, chemical oxidation, and chemical reduction. DOE is seeking to demonstrate that sufficient capacity will exist for this treatability group by documenting its efforts to provide deactivation facilities using various technologies that will oxidize the wastes.

(12) Treatability Group No. 12—Low Level Mixed Waste Radioactive Lead Solids. This treatability group is defined in the Third Third LDR rule (55 FR 22628) for radioactive elemental lead waste. Typical examples of low level mixed wastes within this group are lead bricks or sheets that were used for radiation shielding.

LDR regulations require these wastes be treated using microencapsulation before land disposal. As an alternative however, the lead may be decontaminated to remove the radioactive component, and the nonradioactive lead is managed as a nonradioactive hazardous waste or recycled. Examples of decontamination technologies are washing, abrasive blasting, and melting. DOE is seeking to demonstrate that sufficient treatment capacity will exist for this treatability group by documenting its efforts to provide decontamination and microencapsulation facilities.

(13) Treatability Group No. 13—Low Level Mixed Waste TC Metal Inorganic Solid Debris. This treatability group is defined in the Third Third LDR rule (55 FR 22556) for wastes that exhibit the characteristic of toxicity due to metals (D004–D011) with matrices that are nonfriable, inorganic solids. The rule specified that inorganic solids within the group that are incapable of passing through a 9.5 millimeter (mm) standard sieve are required to be mechanically size-reduced using cutting, crushing, or grinding prior to stabilization. The rule further specified that the solids are limited to the following inorganic or metal materials:

(1) Metal slags (either dross or scoria);
(2) Glassified slag;
(3) Glass;
(4) Concrete (excluding cementious or pozzolanic stabilized hazardous wastes);
(5) Masonry and refractory bricks;
(6) Metal cans, containers, drums or tanks;
(7) Metal nuts, bolts, pipes, pumps, valves, appliances, or industrial equipment; and
(8) Scrap metal defined in 40 CFR 261.1[c](6).

The matrices of the low level mixed wastes within this treatability group are predominantly inorganic solid debris material. However, some of the mixed wastes consist of a combination of both organic and inorganic solid debris (see Treatability Group No. 8). The mixed wastes within this treatability group contain a variety of solid materials such as crushed glass, ceramic packing from process off-gas treatment units, metal sheets and turnings, and contaminated equipment (e.g., pumps, filters, etc.).

The Third Third LDR rule did not promulgate separate treatment standards or provide recommended BDATs for this treatability group. Under the current LDR regulations, the mixed wastes within this group are defined as nonwastewaters and are subject to the same treatment standards for metals as discussed for Treatability Group No. 8, Low Level Mixed Waste TC Metal Nonwastewaters.

On January 9, 1992, EPA issued a proposed rule for LDR treatment standards for newly listed wastes and for revisions to the standards for contaminated debris (57 FR 958). EPA notes that the proposed definitions of contaminated debris are consistent with those used by DOE (57 FR 983), and that DOE is planning to use treatment technologies that would be included as BDAT technologies in the proposed rule (57 FR 987).

Considering the variety of waste matrices, several treatment technologies will be necessary for this treatability group. Candidate technologies can generally be categorized as follows:

- *Destruction.* An example of this category is incineration. As noted above, the matrices for some mixed wastes within this group may include organic solid debris material. Sorting the inorganic from the organic debris in these mixed wastes may be the first step in treatment, with subsequent incineration of the organic portion.
- *Physical Separation.* Examples of these technologies are washing, steam cleaning, extraction, abrasive blasting and, for wastes characteristically toxic for mercury, roasting.
- *Immobilization.* Examples of these technologies are microencapsulation and stabilization.

Many of the mixed wastes in this group are materials that can be effectively decontaminated to remove their hazardous characteristics. DOE intends to decontaminate where possible. The decontamination methods to be used will include or be similar to the physical separation techniques identified above. A stabilization process will be utilized for other mixed wastes. DOE is seeking to demonstrate that sufficient treatment capacity will exist for this treatability group by documenting its efforts to provide inorganic debris treatment facilities.

(14). Treatability Group No. 14—Low Level Mixed Waste TC Metal Soil. This treatability group includes all low level mixed wastes that consist predominantly of soil contaminated with TC metals. The mixed wastes within this group are typically generated from remedial action and environmental restoration activities.

The Third Third LDR rule (55 FR 22625) did not establish a separate treatability group and treatment standards for TC metal-contaminated soils. This was deferred for a later rulemaking which has not yet been issued. Therefore, under the current LDR regulations, the mixed wastes within this group are defined as nonwastewaters and are subject to the same treatment standards for metals as discussed for Treatability Group No. 8, Low Level Mixed Waste TC Metal Nonwastewaters.

Examples of candidate technologies for treatment of TC metal-contaminated soils are soil washing or extraction and stabilization. DOE is seeking to demonstrate that sufficient treatment capacity will exist for this treatability group by documenting its efforts to provide stabilization facilities.

(16) Treatability Group No. 16—Low Level Mixed Waste TC Metal Wastewaters. This treatability group includes all wastewater low level mixed wastes that exhibit the characteristics of toxicity for one or more of the metals (D004–D011) whose metals concentrations are below the California List metals limits. The Third Third LDR rule [55 FR 22555–22575) established concentration-based standards for these wastewaters based on various BDAT wastewater treatment technologies. DOE has identified seven CBC-applicable low level mixed wastes in this treatability group; four at the Savannah River Site, two at the Idaho National Engineering Laboratory, and one at the Feed Materials Production Center. DOE plans to treat these mixed wastes using ion exchange treatment facilities. Therefore, DOE is seeking to demonstrate that sufficient treatment capacity will exist for this treatability group by documenting its efforts to provide ion exchange treatment facilities.

The spent resin generated from this process would have to be evaluated to determine whether it is hazardous due to its TC metal extractable

concentration; if so, it would be a new mixed waste within Treatability Group No. 8, Low Level Mixed Waste TC Metal Nonwastewaters, and would be treated with capacity DOE is planning to provide for this group.

(17) Treatability Group No. 17—Low Level Mixed Waste TC Pesticide Nonwastewaters. Treatability Group No. 17 includes all low level mixed waste that exhibit the RCRA toxicity characteristic for any of the six pesticides for which a hazardous waste toxicity characteristic concentration level has been established. The EPA wastes codes for these six characteristic pesticide wastes are D012 through D017. DOE has identified only one CBC-applicable low level mixed waste in this treatability group. This mixed waste, which is no longer being generated, is being managed at DOE's Weldon Spring Remedial Action Project (WELD) facility.

The Third Third LDR rule (55 FR 22554) established concentration-based treatment standards based on a BDAT of incineration. Therefore, DOE is seeking to demonstrate that sufficient treatment capacity will exist for this treatability group by documenting its efforts to provide incineration facilities.

(18) Treatability Group No. 18—Low Level Mixed Waste Unquantifiable P & U Listed Organic Wastewaters—C, H, O. The Third Third LDR rule (55 FR 22612) established technology-based treatment standards for the wastewater forms of numerous P & U Listed Organics that contain only carbon, hydrogen, and oxygen (C, H, and O) in their molecular structure. DOE has identified only one CBC-applicable low level mixed waste in this treatability group: The P & U Listed RAD Contaminated Condensate mixed waste at INEL.

LDR regulations require treatment of these wastes by either incineration or oxidation (wet air or chemical) followed by carbon adsorption. However, due to the special characteristics of these mixed wastes, DOE is planning to manage this stream using pretreatment followed by calcination and vitrification as an alternative to the established technology-based treatment standard; DOE plans to perform the alternative treatment in accordance with LDR requirements for variances from treatment standards in 40 CFR 268.44.

(19, 20) Treatability Groups Nos. 19 and 20—High Level Mixed Wastes. High level mixed wastes are managed separately and the DOE application addressed two CBC-applicable high level mixed waste streams which are generated only at the Idaho National Engineering Laboratory. DOE plans to use vitrification to meet the LDR required treatment standard.

High level mixed wastes have also been generated at Hanford, the Savannah River Site, and the West Valley Demonstration Project. DOE has determined, however, that these high level mixed wastes are not CBC-applicable and therefore they are not considered further in this Notice. Likewise, the treatment (vitrification) facilities at these sites are not considered.

Each of the two mixed waste streams, high level liquid waste and high level waste calcine, constitutes its own separate treatability group. However, the two streams are related in that the high level liquid waste stream, after pretreatment, becomes the high level waste calcine stream. Therefore, the total vitrification capacity needed to manage these two streams can be represented by the generation rate and stored inventories of the high level waste calcine stream.

DOE is seeking to demonstrate that sufficient capacity will exist for these treatability groups by documenting its efforts to provide vitrification facilities.

(21) Treatability Group No. 21—Transuranic Mixed Wastes. DOE is managing its transuranic mixed wastes separately from low level mixed wastes and has identified that it is generating a total of 34 transuranic mixed wastes at 12 facilities. The individual facilities are identified and described in the Appendix of this Notice. The total generation rate is approximately 138 m^3/yr. In addition, in storage at four of these facilities are another seven transuranic mixed wastes comprising an additional 664 m^3. While these seven transuranic mixed wastes are no longer generated, DOE has stated that it may want to remove them from storage during the extension, thus considering them as CBC-applicable. The affected facilities, waste streams, generation rates, and inventories are identified in the facility-specific sections in the Appendix. The total inventories are summarized in Table A–1.

DOE's management strategy for transuranic mixed wastes consists of storage at generating sites in RCRA-permitted and interim status facilities, followed by shipment to and disposal in an underground geologic repository. This DOE repository, known as the Waste Isolation Pilot Plant (WIPP), was authorized by section 213 of Public Law 96–164 and has been constructed by DOE in southeastern New Mexico, approximately 26 miles east of Carlsbad.[2]

In accordance with 40 CFR 268.6, in March 1989, DOE petitioned EPA for a No-Migration Variance for WIPP. An approved No-Migration Variance is the only basis under which mixed wastes can be disposed without treatment. On November 14, 1990, EPA granted a conditional no-migration determination for testing and experimentation to determine the long-term acceptability of the WIPP (55 FR 47700). Under this decision, DOE can place up to 8,500 drums of mixed wastes or 1 percent of the total capacity of the repository, as currently planned.

DOE has determined that WIPP is ready for operation to receive transuranic mixed wastes on a test basis under the conditions of EPA's no-migration determination. However, DOE may not begin receiving mixed wastes at WIPP until the land has been withdrawn from the public domain. This action has not yet been completed, and, in addition, ongoing litigation also prohibits DOE from shipping transuranic mixed wastes to WIPP for disposal. Thus, the schedule for shipment of transuranic mixed wastes to WIPP cannot be determined.

EPA's proposed conclusions as to how this DOE strategy for transuranic mixed waste management meets the requirements of 40 CFR 268.5 are given in section II.C.8.

c. Identifying and quantifying treatment and capacity requirements and current and future needs. DOE segregated mixed wastes according to their radiological characteristics to determine the most appropriate treatment alternatives for the waste.

For the low level and high level mixed waste streams, the following treatment and recovery technologies were identified as being required to meet the LDR standards for those wastes:

- Incineration.
- Stabilization.
- Oxidation via Thermal or Water Reaction.
- Lead Decontamination and Recycling or Microencapsulation.
- Cyanide Destruction.
- Inorganic Debris Treatment.
- Ion Exchange.
- Vitrification (for high level mixed wastes).

DOE believes it has been able to identify technologies that can treat low

[2] Public Law 96–164, "Department of Energy National Security and Military Applications of Nuclear Energy Authorization Act of 1980, Section 213, Waste Isolation Pilot Plant, Delaware Basin, New Mexico."

level mixed wastes to meet the LDR standards. These technologies are similar to those used for nonradioactive hazardous waste, except that they incorporate contamination control and radionuclide immobilization measures. DOE states it also has, in some cases, been able to develop recovery technologies to manage mixed wastes in accordance with the LDR requirements. However, application of recovery technologies to mixed wastes is less feasible than treatment since the recovery process must include radiologically decontaminating the wastes, and radiological decontamination is not always technologically feasible.

DOE also believes it has been able to identify technologies that can effectively treat high level mixed wastes to meet the LDR standards. Since more extensive contamination control, radionuclide immobilization, and radiation shielding measures are needed to prudently manage high level mixed wastes due to their highly radioactive nature, they are managed separately from all other mixed wastes.

DOE analyzed its current and planned nationwide capabilities to treat (or recover) mixed wastes and compiled information from all DOE sites on their current and planned facilities. The collected information on each facility included the unit name and location, a basic description of the unit, the wastes that it would manage, the management requirements of treated residues, the pollution control equipment associated with the unit, the limitations of the unit, the feed rate and annual capacity of the unit, and a schedule for the availability of the unit. For planned units, all information had not yet been developed.

As a result of this effort, DOE compiled, and has provided in its application, information on 36 existing or planned treatment and recovery facilities located at 10 DOE sites. Five of the facilities are currently operating; the planned facilities include those in conceptual design, detailed design, construction, and testing phases. Table A–2, "Treatment Technologies for CBC-Applicable Mixed Waste and Corresponding Treatability Groups," shows the treatment technologies and treatment standards which DOE intends to apply to each treatability group. Table A–3, "Summary of the Treatment Technology Requirements and Planned Capacity," shows the expected location, inventory, storage capacity, and expected total generation rate of mixed wastes requiring treatment.

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TABLE A-2
TREATMENT TECHNOLOGIES FOR CBC-APPLICABLE MIXED WASTE AND CORRESPONDING TREATABILITY GROUPS[c]

TREATMENT/RECOVERY TECHNOLOGY	TREATABILITY GROUP BY NUMBER AND NAME	TREATMENT STANDARD REQUIRED TECHNOLOGY OR BDAT[a]
Incineration	1. LLW Ignitable Liquids TOC>10%	Required, followed by stabilization, if necessary
	2. LLW P & U Listed Organic Nonwastewaters	BDAT
	3. LLW Unquantifiable P & U Listed Organic Nonwastewaters - C,H,O	Required
	4. LLW TC Metal Nonignitable Organic Liquid	BDAT, followed by stabilization
	5. LLW LDR Appendix IV Labpacks and LLW LDR Appendix V Labpacks	BDAT
	6. LLW TC Metal Organic Solid Debris	BDAT, followed by stabilization
	7. LLW RMW PCB Solids - 50ppm < PCB < 500ppm	Required
	13. LLW TC Metal Inorganic Solid Debris	BDAT (Not Yet Specified)
	17. LLW TC Pesticides Nonwastewaters	BDAT
Stabilization	1. LLW TC Metal Nonwastewater	BDAT, if necessary, preceded by incineration
	4. LLW TC Metal Nonignitable Organic Liquid	BDAT, preceded by incineration
	6. LLW TC Metal Organic Solid Debris	BDAT, preceded by incineration
	8. LLW TC Metal Nonwastewaters	BDAT
	9. LLW F006, F007, F008, F009 Nonwastewaters	BDAT, preceded by cyanide destruction, if necessary
	10. LLW P&U Listed Inorganic Cyanide Nonwastewasters	BDAT, preceded by cyanide destruction
	13. LLW TC Metal Inorganic Solid Debris	BDAT (Not Yet Specified)
	14. LLW TC Metal Soil	BDAT
	7. LLW RMW PCB Solids - 50ppm<PCB<500ppm	BDAT, preceded by incineration
Oxidation	11. LLW Ignitable and/or Water Reactives	BDAT
Lead Decontamination and Recycle/Macroencaps	12. LLW Radioactive Lead Solids	Required
Cyanide Destruction	10. LLW P&U Listed Inorganic Cyanide Nonwastewater	BDAT
Inorganic Debris Treatment	13. LLW TC Metal Inorganic Solids Debris	BDAT (Not Yet Specified)
Ion Exchange	16. LLW TC Metal Wastewaters	BDAT
Vitrification	High Level RMW Treatability Groups	Required
Vitrification[b]	18. LLW Unquantifiable P&U Listed Organic Wastewaters - C,H,O	b

a. "Required Technology" means that the LDR treatment standard requires use of this specific technology; "BDAT" means that the LDR concentration-based or characteristic-based treatment standard was developed using this technology. "BDAT (Not Yet Specified)" means that a separate treatability group and treatment standard for these mixed wastes have not yet been promulgated, and that until it is established, BDAT may be used to meet the concentration-based treatment standards that have been established for TC metals.

b. LDR regulations require treatment of these wastes by either incineration or by oxidation (wet air or chemical) followed by carbon absorption. However, due to the special characteristics of this mixed waste, DOE is planning to manage this stream using pretreatment followed by calcination and vitrification as an alternative to the established technology-based treatment standard. DOE plans to perform the alternative treatment in accordance with LDR requirements for variances from treatment standards in 40 CFR 268.44.

c. Does not include transuranic mixed wastes. Treatability Group No. 15 is non-CBC-applicable.

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TABLE A-3.—SUMMARY OF THE TREATMENT TECHNOLOGY REQUIREMENTS AND PLANNED CAPACITY

Treatment technology units	Total planned capacity m^3/yr	Date available
Incineration Technologies		
1. TSCA Incinerator (K-25)	1,435	(2)
2. WERF Incinerator (INEL)	884	1993
3. Controlled Air Incinerator (LANL)	271	1995
4. Mound Glass Melter (Mound)	182	1993
5. Consolidated Incinerator Facility (SRS)	948	1994
6. Fluidized Bed Unit (RFP)	60	2002
7. Idaho Waste Process. Facility-Incineration Unit (INEL)	(1)	2004
Total planned capacity m^3/yr	3,780	
Generation rate all types m^3/yr	1,658	
May 8, 1992—Inventory all types m^3	40,410	
Stabilization Technologies		
1. WERF-Grout Facility (INEL)	114	(2)
2. Z-Area Saltstone (SRS)	40,320	(2)
3. Cement Solidification System (WVDP)	160	(2)
4. Unit 42 Liquid Process Waste Trtmnt Fac. (RFP)	595	(2)
5. Grout Treatment Facility (Hanford)	15,000	1992
6. Halliburton Solidification (RFP)	15,912	1992
7. RMW Management Facility-Stabilization (SNLA)	(1)	1994
8. MW Treatment Facility-Stabilization Unit (Hanford)	20	1993
9. CIF Ashcrete Facility (SRS)	405	1995
10. HW Treatment Facility-Stabilization Unit (LANL)	139	1997
11. M-Area Waste (Disposal Facility (SRS)	4,542	1997
12. HW/MW Disposal Facility-Stabilization Unit (SRS)	(1)	1998
13. Microwave Melting Solidification System (RFP)	(1)	2003
14. Polymer Solidification (RFP)	(1)	2000
15. Idaho Waste Process. Facility-Stabilization Unit (INEL)	(1)	2004
16. Decontam. and Waste Treat. Facility-Stabilization Unit (LLNL)	113	1999
17. Waste Receiving and Process. Plant (Hanford)	1,500	1999
Total planned capacity m^3/yr	78,820	
Generation rate all types m^3/yr	26,971	
May 8, 1992—Inventory all types m^3	261,800	
Oxidation Technologies		
1. Mixed Waste Treatment Facility (Hanford)	20	1993
2. HW Trtmnt Fac-Reactive Waste Trtmnt Unit (LANL)	139	1997
3. Maintenance and Storage Facility (Hanford)	0.081	1995
Total planned capacity m^3/yr	159	
Generation rate all types m^3/yr	6	
May 8, 1992—Inventory all types m^3	36	
Lead Decontamination/Macroencapsulation		
1. Lead Encaps./Lead Decon. and Recycle Unit (LANL)	30	1992
2. Lead Recycling Fac (INEL)	300	1995
3. HW/MW Disposal Facility-Lead Macroencaps. Unit (SRS)	(1)	1997
Total planned capacity m^3/yr	330	
Generation rate all types m^3/yr	104	
May 8, 1992—Inventory all types m^3	946	

[1] Not determined.
[2] Currently available.

Other LL RMW treatment facilities	Generation rate all types m^3/yr	May 8, 1992 inventory all types m^3/yr	Total planned capacity m^3	Date available
1. SRL In-Tank Treatment System ((Ion Exchange)SRS)	810	2,432	4,720	1992
2. HW/MW Disposal Fac.-Mercury Trtmnt Unit (SRS)			(1)	1997
3. Waste Receiving and Process. Plant, Module II-Contaminated Debris (Hanford)	293	13,701	1,500	1999
4. Decontam. and Waste Trtmnt Fac.-Cyanide Destruction (LLNL)	0.201	0.235	(1)	1999
5. TAN Portable Water Treatment Unit (INEL)[3]	0	100	(1)	(2)

[1] Not determined.
[2] Currently available.
[3] Note: This unit will be upgraded for treatment of mixed wastes.

Vitrification technologies	Generation rate all types m^3/yr	May 8, 1992 inventory all types m^3/yr	Total planned capacity m^3/yr	Date available
1. Waste Im-mobilization Facility (INEL)	3,646	60,875	(*)	2014

* Not determined.

DOE then compared mixed waste treatment needs and capacity on a nationwide basis to demonstrate sufficient capacity to manage the nationwide universe of DOE's mixed wastes at a number of treatment facilities. DOE sorted waste generation and storage information and treatment facility information based on technology, and performed a separate demonstration for each technology. The comparison analyzed the types and quantities of wastes requiring treatment capacity, the capacity provided by existing facilities, the projected capacity to be provided by planned facilities, and the limitations of the existing and planned capacity.

DOE indicated that a major factor that was considered in its analysis of treatment needs and capacity was the effect on available treatment capability of the management requirements of mixed waste to which the case-by-case expansion was not applicable. Although the type of management requirements for non-CBC-applicable mixed waste are substantially equivalent, for some of the technology-specific analyses, the capacity needed to manage non-CBC-applicable mixed waste in accordance with LDR treatment standards, was far in excess of the capacity needed for CBC-applicable mixed waste. Therefore, DOE concluded that these two groups of mixed wastes would compete with each other for available treatment capacity, and, as a result, factored non-CBC-applicable mixed waste into its analyses.

DOE analyzed commercial treatment capacity, DOE facility storage capacity, efforts to enter into binding contractual commitments, factors beyond DOE's control, and the use of surface impoundments or landfills. These factors as well as those discussed in this section are evaluated in section II.C., "Demonstrations Under 40 CFR 268.5(a)".

B. Timing of Treatment Capacity Availability

According to DOE's application, much of the treatment or protective disposal capacity required for its mixed wastes will not become available within the maximum two years for which DOE may obtain an extension of the LDR Third Third effective date. EPA is satisfied that it will not, in fact, be feasible for DOE to obtain all such capacity within the two-year period. The statute however, does not make it a condition of obtaining an extension that alternative capacity be provided within the period of the requested extension or any subsequent renewal, and there may be instances where, as here, it is not possible to obtain alternative capacity within that time frame.

If all other requirements for a case-by-case expansion are met (e.g., a binding contractual commitment to provide capacity, and an acceptable schedule for providing capacity), the fact that capacity will not come on line within two years is not a compelling reason to deny a case-by-case extension to an applicant. However, the statute does not permit extension of the LDR effective date for more than two years. Therefore, for those mixed wastes for which EPA is proposing to grant DOE the requested extension, it will be in effect for one year, with, at most, one additional one-year extension thereafter. This means that no later than May 8, 1994, the LDR requirements affected by any extension and potential renewal will become effective regardless of whether capacity is then available.

C. Demonstrations Under 40 CFR 268.5(a)

An applicant for a case-by-case extension of an LDR effective date is required to submit information showing that he can meet the seven demonstrations required under 40 CFR 268.5. The applicant must demonstrate the following:

- Demonstration 40 CFR 268.5(a)(1): "He has made a good-faith effort to locate and contract with treatment, recovery, or disposal facilities nationwide to manage his waste in accordance with the effective date of the applicable restriction established under Subpart C of this Part (May 8, 1992);"
- Demonstration 40 CFR 268.5(a)(2): "He has entered into a binding contractual commitment to construct or otherwise provide alternative treatment, recovery (e.g., recycling), or disposal capacity that meets the treatment standards specified in Subpart D or, where treatment standards have not been specified, such capacity is protective of human health and the environment;"
- Demonstration 40 CFR 268.5(a)(3): "Due to circumstances beyond the applicant's control, such alternative capacity cannot reasonably be made available by the applicable effective date. This demonstration may include a showing that the technical and practical difficulties associated with providing the alternative capacity will result in the capacity not being available by the applicable effective date;"
- Demonstration 40 CFR 268.5(a)(4): "The capacity being constructed or otherwise provided by the applicant will be sufficient to manage the entire quantity of waste that is the subject of the application;"
- Demonstration 40 CFR 268.5(a)(5): "He provides a detailed scheduled for obtaining required operating and construction permits or an outline of how and when alternative capacity will be available;"
- Demonstration 40 CFR 268.5(a)(6): "He has arranged for adequate capacity to manage his waste during an extension and has documented in the application the location of all sites at which the waste will be managed; and"
- Demonstration 40 CFR 268.5(a)(7): "Any waste managed in a surface impoundment or landfill during the extension period will meet the requirements of paragraph (h)(2) of this section."

EPA evaluated the demonstrations made by DOE pursuant to 40 CFR 268.5(a). EPA's findings on demonstrations (1)–(5) and (7) are applicable to all 31 facilities for which DOE is requesting an extension and are discussed below. EPA's findings for demonstration (6) are provided in the appendix of this notice for each facility separately.

1. Demonstration 40 CFR 268.5(a)(1):

He has made a good-faith effort to locate and contract with treatment, recovery, or disposal facilities nationwide to manage his waste in accordance with the effective date of the applicable restriction established under Subpart C of this Part (May 8, 1992).

In evaluating this demonstration, EPA considered whether DOE had made an exhaustive, systematic effort to locate, contact, and evaluate all facilities with the potential for treatment, recovery, or protective disposal. The applicant's search for potential off-site capacity must reveal that no practical

alternatives exist for treating the wastes to meet the LDR treatment standards by the effective date. This means that the applicant could not find any facilities which are currently eligible to treat the specific wastes or to manage the volume of wastes requiring treatment.

DOE conducted a search for potentially eligible commercial facilities, and then contacted those facilities identified as potentially eligible to gather additional information on each facility's qualifications and capabilities. DOE then evaluated the information to determine whether the facilities could actually provide treatment capacity for DOE CBC-applicable mixed waste. The results of DOE's research revealed inadequate commercial capacity for DOE's mixed wastes covered by this application. In addition, the application addresses the availability of the treatment capacity within DOE facilities.

DOE began its effort to identify, locate, and contract potentially eligible facilities nationwide by compiling information on such facilities from three source documents.

The first document was Commercial Treatment, Storage, and Disposal Vendors: A Handbook of Hazardous Waste Management Services, April 1986 (Pub.# DOE/HWP–13). This document was compiled by the DOE National Hazardous Waste Remedial Actions Program. The handbook contains detailed information on 686 facilities within the United States and Puerto Rico that can handle RCRA-regulated hazardous wastes. The handbook also identifies those vendors used by DOE contractors in the past to treat, store, and dispose of various waste materials.

In addition to the handbook, DOE utilized the March/April 1990 issue of The Hazardous Waste Consultant, a hazardous waste management trade publication. This issue presented a detailed overview and survey of facilities around the nation and was used to provide additional updated information to supplement information provided in DOE's 1986 handbook.

A third source used by DOE for identifying potential commercial capacity was a DOE document entitled Rocky Flats Plant Treatment Plan, completed in August 1990. The Plan, developed in accordance with the terms of a Federal Facilities Compliance Agreement (FFCA) between the State of Colorado, EPA, and DOE, indicated that several commercial facilities appeared to have the capacity to treat certain mixed waste streams or were planning to develop such capacity. Further assessment of these facilities was conducted by DOE to determine the viability of this potential capacity.

In the effort to identify those facilities that might provide viable mixed waste capacity, DOE implemented a two-tiered screening process intended to eliminate all facilities that were not qualified to accept DOE's mixed waste streams. The first screen used in this process eliminated all facilities that merely stored, transported, or acted as a broker for hazardous waste services. This determination was made based upon information provided on each firm's services as documented in the three previously mentioned source documents.

The second screen used by DOE identified those remaining facilities that were approved to handle mixed wastes. Since all of the mixed waste streams for which DOE is seeking an extension in this application have both RCRA-hazardous and radioactive components, only those facilities approved for management of both RCRA-regulated and Atomic Energy Act (AEA)-regulated waste streams were considered. Additional review of each facility's ability to handle specific types of wastes, conditions regarding receipt of off-site wastes, permit restrictions, and other limitations was conducted by DOE and resulted in the development of the "short list" of 31 commercial facilities that appeared to be capable of handling both hazardous and radioactive materials.

DOE conducted a survey of these 31 facilities. A DOE letter requested additional information on the types of wastes handled at each facility, the technologies involved, the treatment capacity and availability, and whether planned or near-future mixed waste capacity would or might be available.

The survey showed that only three facilities had capability or capacity to treat mixed wastes. Positive responses indicating mixed waste treatment capability were received from the following three facilities: Quadrex Environmental Company, Inc. (Quadrex) of Gainesville, Florida; NSSI/Sources and Services, Inc. (NSSI) of Houston, Texas; and Diversified Scientific Services, Inc. (DSSI) of Kingston, Tennessee. DOE further evaluated each of these three facilities' qualifications and capabilities for accepting and providing LDR treatment of DOE mixed wastes.

DOE evaluated each of the three potentially viable facilities against five specific criteria. These primary criteria address each facility's capability to handle the specific LDR mixed waste streams generated by DOE. The five primary evaluation criteria used by DOE for the commercial facilities were as follows:

(1) Whether the environmental and AEA permits held by the facility are adequate to treat DOE mixed waste;

(2) Whether the radioisotopes that the facility is allowed to accept and is capable of treating coincide with the radiological characteristics of DOE mixed waste streams;

(3) Whether the RCRA wastes that the facility is allowed to accept and is capable of treating coincide with the hazardous characteristics of DOE mixed waste streams;

(4) Whether the radionuclide concentrations and total quantities that the facility can manage coincide with the corresponding radionuclide levels of DOE mixed waste streams; and

(5) Whether the facility has any limitations on its waste management capacity that would prevent it from managing DOE mixed waste.

If a facility failed to meet any one of these criteria for a given mixed waste, DOE concluded that it could not rely on that facility to treat that mixed waste. Additionally, because of the risks associated with managing mixed waste, DOE evaluated each facility's demonstrated ability to manage mixed waste, including its status of compliance with applicable environmental and radiation standards.

Subsequent individual assessments of the three facilities based on the above criteria indicated that Quadrex Environmental Company, Inc. (Quadrex) of Gainesville, Florida is capable of managing a clearly defined segment of DOE's CBC-applicable mixed waste to meet the LDR treatment standards. More specifically, DOE can use Quadrex treatment capacity for certain CBC-applicable liquid scintillation mixed wastes generated after May 8, 1992, that are hazardous wastes solely because they exhibit the characteristic of ignitability and have radioactive contamination levels below the limits specified in Quadrex's radioactive materials license. These mixed wastes are in Treatability Group 1. Low level mixed wastes generated at Brookhaven National Laboratory (BNL) and Idaho National Engineering Laboratory (INEL) may also meet these limitations and thus be processed by Quadrex.

The non-CBC-applicable mixed waste that Quadrex is capable of managing consists of D001 waste scintillation materials placed into storage prior to May 8, 1992, as well as other waste scintillation materials containing F-listed solvents. As with the CBC-applicable scintillation materials, these mixed wastes will be required to meet

the standards of Quadrex's radioactive materials license. Non-CBC-applicable mixed waste scintillation materials generated or stored at 13 DOE facilities may meet these limitations, including the following facilities that are party to the DOE case-by-case application: Pantex Plant, Argonne National Laboratory—East, Brookhaven National Laboratory, Inhalation Toxicology Research Institute, Los Alamos National Laboratory, Lawrence Berkeley Laboratory, Lawrence Livermore National Laboratory, Mound Plant, Oak Ridge National Laboratory, Sandia National Laboratory—Albuquerque, and Savannah River Site.

DOE has concluded that the extent to which it ultimately will utilize Quadrex will be determined by the integration of Quadrex treatment capacity with DOE's own existing and planned incineration capacity, the radioactive characteristics of DOE's liquid scintillation mixed wastes, and continued availability of Quadrex treatment capacity. Furthermore, after May 8, 1992, EPA anticipates that this treatment capacity will be in demand from non-DOE facilities that, unlike the DOE facilities, may have no other planned treatment capacity. Since Quadrex has capacity to treat some, but not all mixed waste in Treatability Group No. 1, EPA expects DOE to use such capacity as may be reasonably made available to it.

Regarding NSSI/Sources and Services, Inc. (NSSI) of Houston, Texas, although the company is permitted and licensed to manage a wide variety of mixed wastes, DOE has expressed several concerns about its capacity. Previously contracted mixed waste treatment has not been completed and may not be completed for at least one mixed waste. DOE has issued contracts to NSSI to provide mixed waste treatment at three DOE sites (Feed Materials Production Center, Inhalation Toxicology Research Institute, and Pantex Plant). Therefore, DOE believes it is presently using NSSI capacity to the fullest extent possible and will only be able to make a determination on the future use of the facility once on-line treatment processes are established and existing waste management issues are resolved. Once those issues are resolved, DOE has stated it will reevaluate NSSI's mixed waste treatment capacity.

Regarding the Diversified Scientific Services, Inc. (DSSI) of Kingston, Tennessee, facility's capability to treat DOE mixed waste, DOE's evaluation concluded that DSSI currently is not capable or providing mixed waste treatment capacity. DSSI is likely to be able to provide mixed waste treatment capacity in the future, but this is essentially the same capacity that is currently available from Quadrex. The extent to which DOE can use DSSI's projected future mixed waste treatment capacity to manage CBC-applicable mixed waste (or non-CBC-applicable mixed waste) will likely be determined by the same three factors that determine DOE's use of Quadrex. A fourth determining factor is DSSI's ability to bring its industrial boiler into operation.

Based on the results of its effort to locate and contract with commercial treatment facilities that could manage mixed waste, DOE has concluded that only limited commercial treatment capacity exists nationwide to manage its mixed waste. The existing capacity that was identified consisted of the capacity to treat D001 scintillation liquids.

A follow-up survey was conducted by DOE in late December 1991. No commercial facility with mixed waste treatment capacity, other than the ones previously discussed in the DOE application, has since been identified. Mixed waste treatment capacity at the three commercial facilities (Quadrex, NSSI, and DSSI) is unchanged since the case-by-case application was submitted in November 1991. DSSI has recently completed testing of a treatment process, but on-line mixed waste treatment capacity is not currently available. DOE has used treatment capacity at both Quadrex and NSSI for mixed waste and stated that it will continue to use such treatment capacity where available.

Although not required to do so by 40 CFR 268.5, DOE also discussed its waste minimization practices as a second part of its good-faith effort demonstration. DOE reported that it currently requires all of its facilities to implement a formal waste minimization program that contains goals for minimizing the volume and toxicity of all wastes, including mixed wastes, that are generated. The first generation of these programs was required to be in place by May 1990. The programs are required by section III of DOE Order 5400.1, General Environmental Protection Program. DOE states that it updates the programs every eighteen months.

In support of the waste minimization programs, DOE requires its facilities to develop and implement annual Waste Management Plans. These plans provide an annual baseline against which waste minimization opportunities and progress are identified. The updated plans include sections specifically addressing mixed wastes, including how they are generated, stored, treated, and disposed. The plans identify the facilities currently in use (or being planned or upgraded) and include process information, waste characteristics data, flowcharts, and information on regulatory issues. Mixed waste minimization activities are discussed in these plans, which are required by section IV of DOE Order 5820.2A, Radioactive Waste Management.

DOE also noted that its commitment to waste minimization is reaffirmed in its Environmental Restoration and Waste Management Five-Year Plan (DOE/S–0090P). This document, which describes DOE's strategy for cleaning up and bringing all DOE facilities into compliance with all applicable environmental laws and regulations, identifies waste minimization as a DOE priority and describes how DOE is integrating waste minimization into waste management activities.

In addition to undertaking efforts to locate commercial treatment capacity on a nationwide basis, DOE reviewed the extent to which capacity may be available within DOE facilities. DOE presently provides or is otherwise designing, planning, and constructing its own units/facilities to accommodate its CBC-applicable mixed waste, as required by 40 CFR 268.5(a)(4). As described in section II.A.2.c, DOE established nine required treatment technologies from its evaluation of the mixed wastes and the subsequently established treatability groups. The treatment facilities information shown in Table A–3 shows that DOE is undertaking steps to obtain DOE-owned treatment facilities. As the table shows, DOE has five treatment facilities that are currently available. Table A–3 also summarizes DOE mixed waste generation rates and projected storage inventories, projected completion dates of planned DOE treatment facilities, and the total capacities of those planned units.

In conclusion, EPA believes that DOE has conducted a systematic search to find commercial facilities qualified to treat its mixed wastes and only found very limited available capacity. DOE did contract with NSSI/Recovery Services, Inc. to treat appropriate mixed wastes from three of the facilities (Feed Materials Production Center, Pantex, and Inhalation Toxicology Research Institute) included in the application. As previously mentioned, after May 8, 1992, EPA anticipates that this treatment capacity will be in demand from non-DOE facilities that, unlike the DOE facilities, may have no other planned treatment capacity. Accordingly, the

demonstration that the required capacity is unavailable has been adequately made. However, EPA expects DOE to use such commercial treatment capacity as may be reasonably made available to it until the planned treatment units are brought on-line, taking into account the practicality of treating small volumes, competing demand from other generators, and other relevant considerations. To ensure compliance with the LDR case-by-case requirements for a good-faith effort, EPA will require DOE to use the commercially available mixed waste treatment capacity to manage the appropriate portion of its CBC-applicable mixed waste for the duration of the case-by-case extension, if granted.

In addition, DOE has provided relevant information on its efforts to develop, design, and construct its own facilities. DOE has five facilities that are currently available; the status of all facilities planned by DOE is summarized in Tables A–3 and C–1.

EPA believes that DOE has met the requirements of Demonstration 40 CFR 268.5(a)(1). It is conceivable, however, that new commercial facilities may be established. EPA believes that DOE should take all possible steps to obtain treatment capacity as soon as possible. Therefore to insure that any potential new capacity is not overlooked, EPA will require DOE to submit a plan for continuing to search for and utilize commercial treatment facilities. This plan is to be submitted to EPA within 30 days of the extension, if granted.

2. Demonstration 40 CFR 268.5(a)(2)

He has entered into a binding contractual commitment to construct or otherwise provide alternative treatment, recovery (e.g., recycling), or disposal capacity that meets the treatment standards specified in Subpart D or, where treatment standards have not been specified, such treatment capacity is protective of human health and the environment.

DOE's application raises novel, and somewhat complex, issues regarding this demonstration. These issues arise because of DOE's status as a Federal agency, the fact that DOE intends to provide much of its capacity through in-house management rather than by contracting out, the unusually long time that will be required to provide much of the capacity, and the unavoidable degree of present uncertainty as to the time, location, and manner in which the capacity will be provided.

EPA has not fully resolved these issues. Rather, EPA will identify here options as to general approaches that it is considering for addressing this requirement. EPA anticipates that in the near future it will issue for public comment a specific proposal addressing the contractual requirement in greater detail.

In its application, DOE stated that due to the nature of the Federal budget process, it cannot enter into binding multi-year commitments to construct adequate treatment capacity. DOE also stated that appropriations are established by the Congress on an annual basis. Multi-year construction projects are authorized and funded on a yearly basis, with no binding assurances that construction will be continued from year to year. DOE cited the Anti-Deficiency Act (31 U.S.C. 1341) which prohibits the obligation of Federal funds for which Congress has made no appropriation.

In lieu of a multi-year contract to construct capacity, DOE proposed to meet the statutory requirement by committing in the application that, consistent with Congressional limitations on future funding, it would take all necessary steps and use its best efforts to obtain timely funding to provide sufficient treatment capacity for the affected wastes (and other mixed wastes it generates or has generated), including, but not limited to, the submission of timely budget requests.

DOE also stated that it had prepared an Environmental Restoration and Waste Management Five-Year Plan (DOE/S–0090P) that identifies, integrates, and prioritizes environmental restoration and waste management activities at all DOE nuclear facilities and sites, provides a consistent basis for DOE to address environmental requirements, and develops and supports its budget requests. DOE stated that the Five-Year Plan will be made consistent with the commitments contained herein to provide adequate treatment capacity.

Further supporting its application, DOE provided planning documents called Activity Data Sheets for each of its planned and operational treatment facilities. In a letter to EPA dated February 18, 1992, DOE's Assistant Secretary for Environmental Restoration and Waste Management stated that the Activity Data Sheets are the mechanism DOE uses to prepare its budget requests to Congress and stated that these documents demonstrate that DOE has requested sufficient funding to obtain treatment capacity. Activity Data Sheets are prepared by DOE for each treatment facility and provide comprehensive project management and planning data, such as funding requirements for a six-year period, description and progress of projects, future planned activities to support the project based on funding projections, and milestones.

DOE also provided the OMB (Office of Managment and Budget) Passback Letter for the Fiscal Year (FY) 1993 Budget.[3] The letter provides the OMB passback, or approval, of the budget request of $5.312 billion for the DOE environmental restoration and waste management program for FY 1993 (i.e., October 1, 1992 to September 30, 1993). OMB states that a comprehensive interagency review was performed to ensure that budgetary resources provided in FY 1993 ($5.312 billion) would be adequate to allow DOE to meet all milestones and legal requirements included in compliance agreements, consent orders, and Federal and State statutes and regulations; and to fully implement all DOE orders related to environment, health, and safety. It is EPA's understanding that the agencies and the OMB believe that the approved budget is adequate.

As further evidence of commitments already made to develop treatment capacity for mixed waste, DOE provided copies of the Federal Facilities Compliance Agreements for Hanford, Rocky Flats Plant (RFP), and Savannah River Site (SRS) facilities.

Finally, DOE provided contractual and Congressional budget request documentation relating to the development, engineering, and construction of the treatment facilities; this information is available in the RCRA Docket.

In evaluating the information submitted by DOE to support this demonstration, EPA first considered the Federal contracting process and the Anti-Deficiency Act. EPA recognizes that Federal agencies have contracting constraints which the private sector does not. It is possible, however, and indeed common for Federal agencies to commit to multi-year contracts and projects subject to the availability of funds. Such contracts are generally accepted as fully equivalent to private sector contracts, and EPA interprets the term "binding contractual commitment" to include a contract of this type. Therefore, the Anti-Deficiency Act does not preclude DOE as a general matter from meeting the contractual requirement. (Moreover, the consequence of DOE's interpretation might be simply to bar any Federal agency from obtaining a case-by-case extension, rather than to justify waiver of the requirements as DOE assumed. EPA believes that such an approach

[3] OMB Passback for Fiscal Year 1993, Robert E. Grady to James D. Watkins, December 23, 1992.

would be too restrictive and unfairly burden Federal agencies.)

EPA is therefore considering, and is seeking comment on, other approaches for applying the binding contractual commitment requirement to DOE to resolve the concerns about the approach taken in DOE's application.

To the extent that DOE is utilizing contracts with private contractors to construct treatment capacity, such contracts will meet the requirement. However, in many cases such contracts may not be present for a number of reasons. First, DOE is managing, or plans to manage, much of the construction within the agency. Second, DOE's application indicates plans to provide capacity by constructing a variety of treatment facilities over a period of up to 22 years. While plans for the immediate future are relatively concrete, there is considerable uncertainty as to whether the specific facilities indicated in the application for later years will be built in the precise form or location described. In addition, while DOE can identify the technology it intends to use for most of the waste streams, in many cases, details of the technology must still be worked out. Because of the length of time and the amount of research and development involved before facilities will actually be constructed, it is likely to be impractical for DOE to have a construction contract in hand for such facilities. Finally, DOE has identified a number of facilities at which construction has already been completed, but are not yet in operation for a variety of reasons.

EPA is considering, and seeking comment on at this time, a number of options for addressing the contractual requirement. EPA believes these options to be consistent with the purpose underlying the contractual requirement. The requirement of a binding contractual commitment serves to give EPA confidence that capacity will in fact be provided as represented in the application. The existence of a contract shows that the applicant has made a concrete commitment to obtain capacity within a specified time frame, which cannot lightly be rescinded. In addition, it may serve to show that the applicant has access to whatever resources or expertise are needed to construct or provide capacity. Thus, where the totality of the evidence supports a showing that DOE is managing construction in-house, and is in effect acting as its own general contractor, EPA believes that the requirement has been met. EPA considers this a reasonable interpretation of its own regulation, and does not believe that Congress intended to require contracts with third parties where administrative or technical reasons made in-house management more suitable. The factors that EPA would look at to determine whether DOE (or any other applicant) met the requirement in this fashion would include, among other things: whether purchase orders or subcontracts have been entered into, or are being negotiated, for equipment and services related to the project; whether funding has been approved for the project; and whether a detailed design or facility plan has been developed. In general, a facility that is still in the early planning stage, for which the specific design and location are still undetermined, would have a difficult time in satisfying this requirement.

Second, EPA will consider compliance agreements negotiated with regulatory agencies (in this case, EPA) to be binding contractual commitments for purposes of this requirement, if they contain commitments to provide certain capacity by a stated date. While not contracts will construction firms, such agreements are contractual in nature, commit DOE to develop treatment capacity for specified waste streams, and are binding as enforcement documents. Terms of such agreements are also enforceable through citizen suits under Section 7002 of RCRA.

EPA anticipates that by taking into account compliance agreements, and instances in which DOE is constructing or has constructed capacity in-house, the contractual requirement will be met for a significant number of the waste streams addressed by the application. EPA will provide details on the waste streams for which an extension may be possible in a subsequent notice proposing the Agency's final position with regard to the binding contractual commitment. EPA solicits comment at this time on the general approaches described above.

Even after such approaches have been considered, however, it is possible that a significant group of waste streams in the application will not have been addressed. To address these waste streams, EPA is considering a third approach involving an Interagency Agreement (IAG) between EPA and DOE. EPA anticipates that such an IAG would contain a commitment by DOE to provide, by a specified date, all of the capacity required for treatment of the waste streams addressed by this application that are not addressed by compliance agreements or where DOE is constructing capacity in-house. The details of an IAG are not finally determined, but separate deadlines may be established for the various forms of treatment technology (e.g., incineration, stabilization, etc.). An IAG might or might not contain more detailed specification of the manner in which capacity was to be provided (e.g., specifying facilities to be constructed in the future), and might or might not contain interim milestones for progress toward the ultimate deadline.

Finally, in the case of facilities that have already been constructed but are not yet in operation, the requirement of a contractual commitment may be addressed in a variety of ways. Of course, if a facility has already been constructed, that would be very strong evidence of commitment to treat waste. EPA has previously indicated that where it has already been proposed that a facility be granted a no-migration variance under 40 CFR 268.6, and the facility is already in existence, so that the only remaining contingency is the final regulatory action rendering the facility operable as a disposal site for wastes subject to LDRs, no further contractual commitment will be required. That same principle will apply here. EPA believes that a contractual commitment requirement is no longer appropriate where a facility has been constructed and the only contingency preventing it from becoming operational is issuance of a permit by a regulatory authority, as there is nothing within the applicant's control that he could contract to do. (EPA notes also that the applicant would have to provide a schedule for obtaining such permits to obtain the extension under 40 CFR 268.5(a)(5), and would have to comply with it in good faith to maintain the extension under 40 CFR 268.5(g).)

Where the remaining impediments to operation are technical rather than regulatory, a contract may or may not be required depending on the nature of the technical impediments. In such cases, the requirement could be met by demonstrating a contract with a third party to perform the remaining technical work, or by showing that such work is being done in-house in the same manner described above.

No final decision will be made on DOE's case-by-case application until comments have been received in response to the subsequent Notice addressing the contractual requirement.

3. Demonstration 40 CFR 268.5(a)(3)

Due to circumstances beyond the applicant's control, such alternative capacity cannot reasonably be made available by the applicable effective date. This demonstration may include a showing that the technical and practical difficulties associated with

providing the alternative capacity will result in the capacity not being available by the applicable effective date.

In its application, DOE identified factors which it believes to be beyond its control and which have prevented it from providing compliant capacity by the LDR effective date for the CBC-applicable mixed waste (May 8, 1992). The DOE schedules, in fact, show that most capacity will not be available until well beyond the extension period, including any additional extension, if granted.

a. Technological uncertainty. DOE stated that only limited technologies for treating mixed wastes currently exist. In particular, DOE stated that EPA's proposed treatment standards cannot be directly applied to mixed wastes without consideration of the radioactive component of the wastes. Since the radioactive component of mixed waste usually presents a risk to human health and the environment comparable to or greater than the risk associated with the nonradioactive component, any unit to be used for mixed waste treatment must be designed to control the radioactive component of the mixed wastes. Thus they argue that processes designed for nonradioactive hazardous waste treatment cannot be used for mixed wastes without redesigning them to control for radioactive contamination, ensure that the radionuclides are immobilized in the treated wastes, and provide for radiation shielding. Because of these factors, DOE states that the design, construction, and start-up of large-scale mixed waste treatment units is delayed by the amount of time needed for research and development to devise contamination control, radionuclide immobilization, and radiation shielding technologies. DOE concludes that this limitation has prevented it from providing treatment capacity by the LDR effective date. To address this situation, DOE stated that it has been undertaking extensive research and development efforts for mixed waste treatment facilities and technologies for many years. DOE discussed these efforts in its January 1990 National Report on Prohibited Wastes and Treatment Options. More current details are provided in section 2.4 of the DOE Five-Year Plan (both of these reports are available in the Docket).

EPA agrees with DOE that the need to develop technologies and safe processes to handle mixed wastes is a significant contributing factor to DOE's lack of alternate capacity. Both EPA and the U.S. Nuclear Regulatory Commission recognize the concerns and additional safety issues which arise from the handling of mixed waste.

In addition, the Office of Technology Assessment (OTA) of the U.S. Congress discussed the lack of treatment, off-site storage, and disposal facilities for mixed wastes in its November 1989 report to Congress entitled Partnerships Under Pressure: Managing Commercial Low Level Radioactive Waste. OTA's study on managing low level wastes, including mixed low level waste, was undertaken at the request of the Senate Committee on Environment and Public Works. The Committee asked OTA to analyze States' progress in developing disposal facilities for these wastes and to evaluate any problems in managing mixed low level wastes. Although the OTA study focussed on states' mixed low level waste programs, OTA studied the availability of commercial treatment and disposal capacity for mixed waste; thus OTA's findings and conclusions are relevant to DOE and to EPA's evaluation of the DOE application.

In summary, OTA found that: "Although mixed LLW comprises less than 10 percent of all LLW, it has been identified by States as their major concern in managing LLW. No disposal facility for mixed LLW has been available since 1985. Also, no off-site storage or treatment facility is available * * * the absence of treatment capacity, the absence of appropriate treatment technologies, storage prohibitions that cannot be met, and the absence of disposal capacity are serious problems that need to be addressed." (As discussed previously under Demonstration No. 1, DOE has subsequently found some limited commercial mixed waste treatment capability.)

OTA further observed that the commercial sector was reluctant to develop facilities for five main reasons: "First is lack of data. Without a national survey on mixed low level waste volumes and types, industry will have difficulty meeting market needs. Second is the possiblity that (States') compacts could attempt to restrict the import and export of waste for treatment, thereby limiting waste volumes and making the development of a treatment facility economically unviable. Third is the long licensing period expected for receiving a permit to operate such a facility. Fourth is the reluctance of facility operators to contaminate the internal mechanisms of their machinery with radioactivity. Fifth, is the opposition of some public interest groups to siting such facilities."

EPA agrees with these conclusions and believes that they are contributing factors to DOE's current lack of alternate capacity. Subsequent to the OTA studies, EPA found that sufficient treatment capacity was still lacking. In publishing the Third Third final rule on June 1, 1990, EPA granted a two-year national capacity variance under RCRA section 3004(h)(2) noting that: "(EPA) bases the national variance for these wastes upon a determination that there is inadequate treatment capacity available for these wastes" (55 FR 22532). In making this determination, EPA used data supplied by DOE, individual states, and other sources (55 FR 22632, 22644).

EPA continued to recognize the problem of shortage of treatment capacity when it issued its "Policy on Enforcement of RCRA section 3004(j) Storage Prohibition at Facilities Generating Mixed Radioactive/Hazardous Wastes"; August 29, 1991 (56 FR 42732). In issuing this policy, EPA again recognized that: "The shortage of treatment capacity for mixed wastes generated by DOE facilities is well documented, particularly in the data submitted to EPA to support the May 8, 1990 national capacity variance, and in the January 1990 National Report on Prohibited Wastes and Treatment Options prepared by DOE as part of the Rocky Flats Federal Facilities Compliance Agreement (FFCA)".

This National Report was prepared by DOE in response to the September 19, 1989, Rocky Flats Federal Facilities Compliance Agreement (FFCA) between DOE, EPA, and the State of Colorado Department of Health. As part of the FFCA, DOE was required to prepare and submit a report identifying each DOE facility managing mixed waste subject to the LDR, and providing descriptions and quantities of the mixed waste, generation rates, treatment technologies needed, and the availability of treatment capacity. All DOE sites provided the required data. The report was issued on January 16, 1990. DOE reported that 30 sites generated or stored mixed waste, with a total generation rate of approximately 97,000 m^3/yr and 352,000 m^3 in storage. DOE determined that it had an annual incineration capacity of only about 1,200 m^3 and other treatment capacity of 15,000 m^3/yr. In this report, DOE also noted the need for continued investigation and development of treatment technologies.

Further, in October, 1991, DOE, the Department of Defense, and EPA proposed legislation that recognized the continued shortage of treatment capacity for mixed waste and provided additional time for treatment technologies and capacity to be developed. (Congression Record. S.

14884, 14892, October 17, 1991). This legislation is still pending in Congress.

b. Backlog of other wastes. DOE also cited other reasons why it believes that circumstances beyond its control prevent it from providing compliant capacity by the LDR effective date for the Third Third CBC-applicable mixed wastes. DOE states that the existence of a large backlog of existing mixed wastes requiring proper management, including treatment to LDR standards, is a major factor affecting how DOE manages its CBC-applicable mixed waste.

The case-be-case extension DOE is seeking through this application will only apply to a portion of the mixed wastes under DOE control. In addition to these CBC-applicable mixed wastes, DOE manages a larger quantity of other mixed wastes. DOE states that this previously restricted mixed waste is awaiting proper treatment and, until that treatment can be provided, it is stored in DOE's RCRA storage facilities. The mixed wastes covered by this application and the mixed waste which is not eligible for a case-by-case extension will, however, be competing for the limited treatment capacity that DOE currently is able to provide. The non-CBC-applicable existing mixed waste consists of the following three groups of mixed wastes;

- Third Third mixed wastes generated prior to May 8, 1992, that are not also Solvents and Dioxins or California List mixed wastes, and will not need to be managed in a manner that constitutes removal from storage during the extension period and therefore become subject to the LDR storage prohibition.
- Solvents and Dioxings and California List mixed wastes generated prior to the respective November 7, 1986, and July 8, 1987, LDR effective dates for those wastes (including those that also contain a Third Third mixed waste component);
- Solvents and Dioxins and California List mixed wastes generated on or after the respective November 7, 1986, and July 8, 1987, LDR effective dates for those wastes (including those that also contain a Third Third mixed waste component).

Mixed wastes which are subject to the LDRs but placed in storage before the effective date are not subject to the storage prohibition of section 3004(j) of RCRA. The first two groups of mixed wastes listed above are not subject to the LDR storage prohibition as long as they are not removed from storage or otherwise actively managed while in storage. However, those mixed wastes, as well as the third group of mixed wastes and the mixed wastes covered by this application, are required to satisfy the applicable LDR treatment standard requirements prior to land disposal. DOE states that in order to best use its existing limited mixed waste treatment capacity to provide adequate treatment for all these wastes, it must prioritize all of its mixed wastes, by comparing its treatment capacities to its treatment needs. In prioritizing wastes for treatment, DOE states it generally considers four major criteria, in the following order:

(1) Imminent health and safety and environmental release concerns of various wastes in storage;

(2) Compliance with formal agreements between various DOE facilities and regulatory agencies;

(3) Compliance with RCRA or TSCA requirements, other than the LDR storage prohibition; and

(4) Compliance with the LDR storage prohibition.

After the four major criteria are evaluated by DOE, it considers nonregulatory criteria associated with risk reduction. These criteria are similar to the first criterion except that they focus on long-term rather than imminent risks. For example, DOE believes that liquid mixed waste storage has, in general, an inherently higher risk than solid mixed waste storage. Therefore, in situations where certain solid and liquid mixed wastes are prioritized using DOE's criteria, liquid mixed wastes will generally be assigned available treatment capacity before solid mixed wastes. DOE states that its scheme for prioritizing these wastes in these situations is intended to be consistent with HSWA, placing Solvents and Dioxins and California List mixed wastes ahead of the Third Third mixed wastes. This consistency is further amplified for newly generated Third Third mixed wastes by the results of DOE's waste minimization and reduction programs, under which more recently generated mixed wastes will generally be less hazardous than those generated in the past.

EPA concludes that the priority to be assigned to mixed waste streams is not beyond DOE's control. However, EPA agrees that the available treatment and disposal capacity is insufficient to address both CBC-applicable and other mixed wastes in the near term. Therefore, some prioritization is necessary and it is reasonable for DOE to give higher priority to some non-CBC applicable mixed waste. Since DOE's prioritization will necessarily result in many CBC-applicable mixed wastes remaining untreated, the availability of some treatment capacity does not negate a finding that compliance with the Third Third LDR is beyond DOE's control.

DOE further states in its application that limitations on funding also have restricted DOE's ability to provide required treatment for mixed wastes. In section 2.3.4 of the application, DOE presented arguments which it feels constrained its ability to fund sufficient waste treatment projects. DOE did not provide sufficient evidence to allow EPA to evaluate this factor.

DOE also states that during the early 1980's, there was considerable uncertainty regarding the applicability of RCRA to wastes containing radionuclides. This historic lack of clarity was recognized by EPA at the time it published the rule that mixed waste was subject to RCRA (51 FR 24504, July 3, 1986). While those early uncertainties may have been a factor affecting DOE's present ability to provide sufficient compliant capacity, EPA does not view them as a primary consideration in assessing whether the lack of capacity was beyond DOE's control at this time. Sufficient time has passed since 1986 so that EPA is not persuaded by DOE's argument that policy constraints appear to be the principal factor accounting for the lack of current capacity. EPA concedes that a more recent complicating factor for these wastes is the fact that treatment standards for the Third Third mixed wastes were not promulgated until 1990. DOE's application does not indicate whether the development of capacity was affected by the timing of EPA's promulgation of these waste standards.

In its application, DOE went on to provide an evaluation of the impact of the NEPA process and RCRA permitting process on the development and construction of treatment units. DOE believes that the time needed to meet these regulatory requirements is a factor beyond DOE's control that prevents DOE from providing compliant treatment capacity by the effective date for CBC-applicable mixed waste.

EPA recognizes that many steps in these processes are beyond an applicants control. However, the application primarily reviewed the effect of such delays on future development of treatment units; this does not affect the past inability to develop treatment capacity. EPA therefore did not evaluate this as a factor in its determination in Demonstration 40 CFR 268.5(a)(3).

In summary, DOE has discussed factors which it believes were beyond its control and which it states precluded it from reasonably obtaining alternative capacity by the LDR effective date.

EPA recognizes and agrees that adequate treatment capacity is indeed lacking and that this historical situation is well documented; EPA has cited references to this effect. EPA also agrees that past technology deficits have contributed in part to today's lack of capacity. Further aggravating DOE's situation is its backlog of non-CBC-applicable mixed waste. On this basis, EPA believes sufficient circumstances were beyond DOE's control that it has met the requirements of Demonstration 40 CFR 268.5(a)(3).

4. Demonstration 40 CFR 268.5(a)(4)

The capacity being constructed or otherwise provided by the applicant will be sufficient to manage the entire quantity of waste that is the subject of the application.

For the low level mixed wastes and high level mixed wastes, the following treatment and recovery technologies were identified by DOE as being required to meet the LDR standards for those wastes:

- Incineration.
- Stabilization.
- Oxidation via Thermal or Water Reaction.
- Lead Decontamination and Recycling or Microencapsulation.
- Cyanide Destruction.
- Inorganic Debris Treatment.
- Ion Exchange.
- Vitrification.

DOE plans to treat the wastes within its 17 low level mixed waste treatability groups and two high level mixed wastes with these technologies. Some are required treatment standard technologies, while others are the best demonstrated available technology (BDAT) to meet a concentration-based treatment standard for each treatability group. For the Third Third mixed wastes, a treatment standard is based on the performance of the best demonstrated available technology (BDAT) to treat the waste (55 FR 22525, 51 FR 40567). EPA may establish treatment standards either as specific technologies or as performance standards based on the performance of BDAT. Table A–2 shows the treatment standards and treatment technologies for each of the treatability groups. Some mixed wastes require, of course, more than one treatment technology.

Table A–3 lists all treatment units together with their expected location, capacity requirements, and planned capacities.

DOE has provided the following descriptions of the treatment technologies.

a. *Incineration.* Incineration will be used to meet the LDR treatment standards for CBC-applicable low level mixed wastes in Treatability Groups 1 through 7 and 17. It is the required technology-based treatment standard for Treatability Groups 1, 3, and 7; for Treatability Group 1, post-incineration stabilization is also included if necessary to immobilize TC metals.

Incineration is the specified BDAT to meet concentration-based treatment standards for Treatability Groups 2, 4, 5, and 6; for Treatabilty Groups 4 and 6, post-incineration stabilization is also included in the BDAT to meet the concentration-based treatment standards for TC metals.

Incineration will also be used to meet the concentration based treatment standard for some of the wastes in Treatability Group 13, Low Level Mixed Waste TC Metal Inorganic Solid Debris, in accordance with treatment standards proposed by EPA (57 FR 985; 57 FR 1037). Since incineration will only be used for an undetermined portion of the wastes in this treatability group, DOE did not consider them further in the analysis of incineration capacity needs.

DOE requires incineration to treat CBC-applicable low level mixed waste, non-CBC-applicable low level mixed waste, and radioactively contaminated PCB wastes regulated under the Toxic Substances Control Act (TSCA). The CBC-applicable low level mixed waste requiring incineration capacity include those mixed wastes in Treatability Groups 1 through 7 and 17 that will be generated after the May 8, 1992, LDR effective date. This category has a total generation rate of 322 m^3/yr, and a projected May 8, 1992, stored inventory of 1,553 m^3.

The quantities of non-CBC-applicable low level mixed waste requiring incineration include the following wastes:

- The May 8, 1992 stored inventory of low level mixed wastes that are currently generated and will be placed in storage prior to May 8, 1992 plus those that are no longer generated.
- The stored inventory and current generation rate of non-CBC-applicable low level mixed wastes consisting of solvents, dioxins, California List, and TCLP organics.

These non CBC-applicable mixed wastes have a total generation rate of 1,199 m^3/yr and a projected May 8, 1992, stored inventory of 31,170 m^3.

A third category of mixed waste that requires incineration capacity is readioactively contaminated PCB wastes not regulated under RCRA. These wastes are regulated under the TSCA requirements and are subject to TSCA storage limitations. Under TSCA requirements, these wastes are not allowed to be stored for longer than one year. DOE is currently storing a considerable inventory of these wastes requiring incineration. At DOE's only operating mixed waste incinerator, approximately 72% of the 24 million pounds of mixed wastes in storage and scheduled to be incinerated is subject to the TSCA storage regulations. Using an average specific gravity of 1.0 for these wastes, they are being generated at a rate of 137 m^3/yr and approximately 7,687 m^3 are in storage.

The overall total generation rate of the three types of mixed wastes requiring incineration is projected to be 1,658 m^3/yr and DOE calculates the total May 8, 1992, mixed waste stored inventory requiring incineration to be 40,410 m^3.

To seek to demonstrate sufficient capacity to manage the mixed wates in Treatability Groups 1 through 7 and 17, DOE is currently operating one mixed waste incinerator and is planning to construct and operate an additional six mixed waste incinerators.

The existing incineration unit has the capability to treat both liquids and solids and has a capacity of approximately 1,435 m^3/yr. Since the incineration capacity needs for DOE include a stored inventory of approximately 40,410 m^3, DOE's existing incerator would require many years to treat the stored inventory of wastes. Using the existing incineration capacity to also manage the quantity of wastes resulting from the current generation rate of 1,658 m^3/yr would result in an even longer period to incinerate the inventory of stored wastes. However, incineration capacity increases provided by planned units will act to reduce the time necessary to treat the backlog and currently generated wastes.

The total capacity of six of the seven operating and planned incinerators is approximately 3,780 m^3/yr. There is one planned incinerator at Idaho National Engineering Laboratory (INEL) for which DOE has not determined the capacity.

DOE's total incineration capacity will increase in steps between 1993 and 2004 as additional units commence operation. The total capacity available by 2004 is projected by DOE to be in excess of 3,780 m^3/yr. This capacity is greater than the projected generation rate for incinerable mixed wastes. Thus, DOE plans to use this capacity to gradually reduce the stored inventory of mixed wastes requiring incineration and to manage all CBC-applicable mixed waste requiring incineration. Based on DOE's analysis, EPA believes the combined capacity of the existing and planned incineration units will be sufficient (even without the INEL capacity) to

manage the CBC-applicable mixed waste requiring incineration.

b. Stabilization. Stabilization will be used to meet LDR concentration-based treatment standards for the CBC-applicable low level mixed wastes in Treatability Groups 1, 4, 6, 7, 8, 9, 10, and 14. For Treatability Groups 1, 4, 6, and 7, pre-stabilization incineration is also included in the BDAT to meet the concentration-based treatment standard. The pre-stabilization incineration capacity needs for these treatability groups have been included in the previous section. For Treatability Groups 9 and 10, pre-stabilization cyanide destruction is also required as part of the treatment standard.

In addition, DOE plans to use stabilization to meet the concentration-based treatment standard for some wastes in Treatability Group 13, Low Level Mixed Waste TC Metal Inorganic Solid Debris. DOE expects to use stabilization only for an undetermined portion of the wastes in the treatability group, and has not considered it further in its stabilization capacity needs.

Stabilization capacity is needed by DOE to treat three groups of wastes: CBC-applicable low level mixed waste, non-CBC-applicable low level mixed waste, and non-CBC-applicable mixed waste classified as Double-Shell Tank (DST) mixed waste and low level fractions of high level mixed waste and DST mixed waste.

The CBC-applicable low level mixed waste requiring stabilization capacity include those mixed wastes in the previously identified treatability groups that will be generated after the May 8, 1992, LDR effective date. However, mixed wastes in four of the treatability groups are to be stabilized only after they are incinerated. In the stabilization capacity needs analysis, the volumes of these mixed wastes were not considered further by DOE for three reasons:

(i) The prestabilization incineration of these mixed wastes results in a large, but undetermined, volume reduction factor for the wastes, thus, representative volumes of the incineration residues are not available.

(ii) The incineration ash from DOE's operating incinerator is included in Treatability Group 8, which requires direct stabilization and is already counted in the analysis.

(iii) Some of the residues resulting from incineration of mixed wastes in Treatability Group 1 are expected to be nonhazardous and subsequently will not require stabilization.

Based on these factors and DOE's further analysis, EPA concurs that DOE will have sufficient stabilization capacity to address the residues generated from the incineration of wastes in Treatability Groups 1, 4, 6, and 7.

Treatability Groups 8, 9, 10, and 14 will either be stabilized directly or, in the case of Treatability Group 10, will not undergo significant volume reduction during pretreatment. Therefore the volumes associated with these four treatability groups are considered in this analysis of stabilization capacity needs.

The total stabilization capacity required for the CBC-applicable low level mixed waste in Treatability Groups 8, 9, 10, and 14 is projected to be approximately 7,627 m^3/yr. It should be noted that pondcrete, one major CBC-applicable mixed waste (5,200 m^3/yr) at RFP, is not projected to be generated after 1993.

The quantities of low level mixed waste requiring stabilization include the following wastes:

- The May 8, 1992, stored inventory (52,766 m^3) of CBC-applicable low level mixed wastes that are currently generated plus those that are no longer generated.
- The stored inventory (3,356 m^3) and current generation rate (74 m^3/yr) of non-CBC-applicable low level mixed wastes consisting of solvents, dioxins, California List, and TCLP organics.

The third group of mixed wastes requiring stabilization includes the quantities of non-CBC-applicable mixed waste classified as DST mixed waste and the low level fractions of high level mixed waste and DST mixed waste. Thirteen mixed wastes in the following five treatability groups will require stabilization:

- Alkaline high level waste liquids (low level fraction of one stream)
- Alkaline high level waste slurries (low level fractions of four streams)
- Hanford double-shell wastes—grout treatment (four streams)
- Hanford double-shell transuranic wastes (low level fractions of two streams)
- Hanford double-shell wastes with complexants (low level fractions of two streams)

Pretreatment technologies such as precipitation/phase separation and ion exchange will be used to remove and concentrate much of the radioactive component in some of these mixed wastes. After pretreatment, the low level fractions of these streams are to be stabilized in grout, and the fractions containing the concentrated radioactivity are to be vitrified. For one treatability group, the alkaline high level waste slurries, the volume of low level fraction to be stabilized (after phase separation pretreatment) is projected to be approximately 65% of the original waste volume. As of the May 8, 1992, LDR effective date, mixed wastes in this third category requiring stabilization have a combined generation rate of 19,270 m^3/yr and total stored inventory is projected to be 205,678 m^3.

Therefore, the overall total generation rate from combining the three categories of mixed wastes requiring stabilization is 26,971 m^3/yr. DOE calculates the combined stored inventory of these mixed wastes to be 261,800 m^3.

To seek to demonstrate sufficient capacity to manage the CBC-applicable mixed waste requiring stabilization, DOE is currently operating four mixed waste stabilization units and is planning to construct and operate an additional 13 mixed waste stabilization units. See Table A–3.

The combined treatment capacity of the four existing units is 41,189 m^3/yr. However, the largest of the existing units, Z-Area Saltstone at the Savannah River Site, is a dedicated unit for the low level fraction of a high level mixed waste. Therefore, only approximately 869 m^3/yr of actual existing capacity is available for low level mixed wastes (both CBC- and non-CBC-applicable). The capacity of the existing units (excluding the dedicated Z-Area Saltstone unit) is not sufficient to manage low level mixed wastes since it is less than the generation rate of the CBC-applicable low level mixed waste requiring stabilization (7,627 m^3/yr).

The total capacity of eight of the planned stabilization units is approximately 37,631 m^3/yr. In addition, there are five planned stabilization units for which the capacity has not yet been determined. The combined capacity of the existing and planned units totals approximately 38,500 m^3/yr for low level mixed wastes plus the capacity of five other planned units; in addition, DOE also has existing capacity of 40,320 m^3/yr to treat the low level fraction with a high level mixed waste. DOE expects to reach this capacity level by 2004, at which time the capacity of the stabilization units will substantially exceed the 21,771 m^3/yr projected generation rate of mixed wastes requiring stabilization (the 5,200 m^3/yr Rocky Flats Plant pondcrete mixed waste is not projected to be generated after 1993). The excess capacity available by this time will be able to gradually reduce the total stored inventory of mixed wastes requiring stabilization.

Based on DOE's analysis, EPA believes the combined capacity of the existing and planned stabilization units will be sufficient to manage the CBC-

applicable mixed waste requiring stabilization.

c. Oxidation. Oxidation (deactivation/oxidation) will be used to meet the LDR treatment standard for CBC-applicable low level mixed wastes in Treatability Group 11, Low level Mixed Waste Ignitable and/or Water Reactives. Deactivation is the required characteristic-based treatment standard for that treatability group. Various oxidation technologies, including thermal treatment and water reaction, may be used to meet the deactivation treatment standard for the wastes in this treatability group.

DOE projects the total generation rate of CBC-applicable low level mixed waste requiring deactivation/oxidation to be 6 m^3/yr. DOE has indicated that it generates no mixed wastes other than that which are CBC-applicable to the oxidation treatment technology. The total stored inventory is 36 m^3 and consists of only CBC-applicable low level mixed waste.

To seek to demonstrate sufficient capacity to manage the CBC-applicable mixed wastes in Treatability Group 11, DOE is planning to construct and operate three mixed waste deactivation units that will use various oxidation technologies. See Table A–3. The total capacity of the planned deactivation/oxidation units is approximately 159 m^3/yr.

The combined actual capacity of these units is likely to be less than 159 m^3/yr, however, since some of the units will operate with specific limitations. For example, the capacity of the planned deactivation unit at Los Alamos National Laboratory (LANL) is actually less than the projected 139 m^3/yr because most of that unit's planned capacity will be specifically designed for reactive pyrophoric uranium waste rather than the more general category of reactive metal mixed waste. In addition, the projected capacity of the Hanford Mixed Waste Treatment Facility represents the total capacity of the entire facility, which includes four units, only one of which performs deactivation. Another limitation is that the reactivity of the waste to be treated in these units affects the quantity that the units can treat. More reactive wastes require a greater treatment capacity than less reactive wastes, even if they have a much smaller volume. Therefore, the actual capacities of these units are a direct reflection of the degree of reactivity of the waste and are difficult to quantify with a high degree of confidence. DOE states, however, that sufficient deactivation capacity will be available by 1997 to manage DOE's CBC-applicable low level mixed waste requiring deactivation. EPA believes that DOE's planned capacity of 159 m^3/yr by 1997 even with the limitations noted (partly due to the relatively small amounts of wastes generated and in inventory) should be sufficient to meet its needs for oxidation treatment.

d. Lead decontamination and recycle/microencapsulation. Decontamination or microencapsulation will be used to manage 38 CBC-applicable low level mixed waste in Treatability Group 12, Low Level Mixed Waste Radioactive Lead Solids. Decontamination will be used to allow subsequent recycling of the nonradioactive lead so that it is no longer subject to mixed waste regulation. In cases where DOE does not decontaminate and recycle these mixed wastes, microencapsulation will be used to meet the technology-based LDR treatment standard.

The total generation rate of CBC-applicable low level mixed waste in Treatability Group 12 requiring decontamination and recycle/microencapsulation capacity is projected to be approximately 104 m^3/yr. Decontamination and recycle/microencapsulation capacity also will be required to manage 946 m^3 of CBC-applicable low level mixed waste in stored inventory. Less than 1 m^3/yr of non-CBC-applicable low level mixed waste is generated or stored which will require decontamination and recycle/microencapsulation capacity.

To seek to demonstrate sufficient capacity to manage the CBC-applicable mixed waste in Treatability Group 12, DOE is planning to construct and operate three mixed waste decontamination and recycle/microencapsulation units. DOE has included no existing units in its application.

As shown by Table A–3, the total annual capacity of two of the three planned decontamination and recycle/microencapsulation units is approximately 330 m^3/yr; the planned capacity for the third unit has not yet been determined by DOE. DOE has also stated that it will bring all treatment units on line by the first quarter of 1996 to provide the required capacity. This capacity is more than enough to treat the projected generation rate for these wastes and gradually reduce the stored inventory of mixed wastes requiring lead decontamination and recycle/microencapsulation. EPA believes, therefore, that DOE will provide sufficient treatment capacity for this treatability group.

e. Cyanide destruction. Cyanide destruction will be used primarily to meet the LDR treatment standard for CBC-applicable low level mixed waste in Treatability Group 10, Low Level Mixed Waste P & U Listed Inorganic Cyanide Nonwastewaters; some amount of cyanide destruction technology may be needed to pre-treat wastes in Treatability Group 9, Low Level Mixed Wastes F006, F007, F008, and F009 Nonwastewaters. However, since cyanide destruction will only be used for an undetermined portion of the wastes in this treatability group, DOE did not consider them further in the analysis.

Cyanide destruction is the required concentration-based treatment standard for that treatability group. Stabilization after cyanide destruction is the BDAT technology to meet the concentration-based standard for TC metals for mixed wastes in this treatability group.

The quantities of CBC-applicable and non-CBC-applicable mixed waste that will require cyanide destruction to meet the LDR treatment standards are extremely small. CBC-applicable low level mixed waste requiring cyanide destruction is generated at only one DOE site, Oak Ridge National Laboratory (ORNL), at a rate of 0.001 m^3/yr. Inventory in storage will be 0.003 m^3 on May 8, 1992. Non-CBC-applicable low level mixed waste requiring cyanide destruction is generated at Lawrence Berkeley Laboratory (LBL) at a rate of 0.020 m^3/yr. The inventory as of May 8, 1992 will be 0.230 m^3. Thus, the combined generation rate of mixed wastes requiring cyanide destruction is 0.021 m^3/yr and the DOE projected inventory to be stored by the May 8, 1992, LDR effective date is 0.233 m^3.

To seek to demonstrate sufficient capacity to manage the CBC-applicable mixed waste in Treatability Group 10, DOE currently is planning to construct and operate one cyanide destruction unit at Lawrence Livermore National Laboratory (LLNL). DOE has no existing cyanide destruction units. See Table A–3.

The total capacity of the planned cyanide destruction unit has not been determined at this time. However, DOE stated that the capacity to be provided by this planned unit will be sufficient to manage the CBC- and non-CBC-applicable quantities of mixed waste requiring cyanide destruction. The unit is scheduled to begin operation by 1997. EPA believes that DOE will be able to provide adequate treatment capacity partly based on the small amounts of wastes that are generated or in inventory and partly based on the availability of this type of technology.

f. Inorganic debris treatment. Inorganic debris treatment will be used to meet the LDR proposed treatment

standards (57 FR 958) for the CBC-applicable low level mixed waste in Treatability Group 13, Low Level Mixed Waste TC Metal Inorganic Solid Debris. However, DOE plans to use a number of technologies to meet the treatment standards for these wastes. Therefore, inorganic debris treatment includes a group of several distinct technologies. Each specific technology will be applicable to specific mixed wastes depending on the available waste characteristics data. The following technologies are included in this group:

- Incineration may be applicable in cases where the mixed wastes includes a mixture of organic and inorganic materials.
- Physical separation or decontamination may be applicable in cases where the hazardous or radioactive component of the mixed wastes is present only on the surface of the wastes or can otherwise be readily separated from the waste matrix. In these cases, the radioactive or hazardous waste component can be most effectively removed by technologies such as washing, steam cleaning, abrasive blasting, etching, cutting and disassembly and, for wastes characteristically toxic for mercury, roasting. The technologies in this category only change the form of the wastes but do not eliminate the hazardous waste component. Therefore, treatment of mixed wastes using these technologies can result in the generation of wastewater or other matrices (e.g., liquid mercury) with hazardous characteristics. These new rates may require subsequent treatment to meet LDR treatment standards.
- Immobilization technologies such as stabilization or microencapsulation may be applicable in cases where the hazardous component cannot be readily separated from the waste matrix.

The total generation rate for CBC-applicable low level mixed waste in Treatability Group 13 requiring inorganic debris treatment capacity is projected to be approximately 165 m^3/yr. In addition, DOE projects 720 m^3 of CBC-applicable low level mixed waste to be in stored inventory as of May 8, 1992. Inorganic debris treatment capacity also will be required to manage 128 m^3/yr of non-CBC-applicable low level mixed waste that is currently generated and the 12,981 m^3 projected to be in storage as of May 8, 1992.

The non-CBC-applicable low level mixed waste includes in storage mixed wastes that are no longer generated, and Solvent and California List mixed wastes. Thus, the total combined generation rate of DOE mixed wastes requiring inorganic debris treatment is 293 m^3/yr, and the total projected stored inventory of all mixed wastes is 13,701 m^3.

According to DOE, in determining the needed physical separation treatment capacity, the waste form is a major factor to be evaluated. Many mixed wastes in this treatability group have unusual shapes or configurations whereby waste volume does not provide a representative measurement of the time, equipment, labor, and other resources needed to effectively treat the wastes. A small object with a complex configuration may require a considerably greater treatment "capacity" than a large object with a simple configuration. However, when all other factors are equal, volume is an effective and representative means of measuring the wastes, so DOE has used it nonetheless. (DOE believes that caution should be exercised in analyzing physical separation capacity needs or in measuring a unit's physical separation capacity based on volume.)

To seek to demonstrate sufficient capacity to manage the mixed wastes in this treatability group, DOE is currently planning to construct and operate two mixed waste treatment units using various specialized inorganic debris treatment technologies. These units will be located at the Savannah River Site and Hanford. DOE stated that it has no existing inorganic debris treatment units that provide the capability to perform physical separation. In addition to these specialized units, certain units described in the incineration and stabilization sections will be used to manage these wastes in cases where they provide appropriate treatment.

The existing units that DOE can use to provide inorganic debris treatment are limited to those units providing incineration and stabilization capabilities. These units can manage the specific mixed wastes where incineration or immobilization can be used most effectively to meet the LDR treatment standards. The total annual capacity of the planned inorganic debris treatment includes the capacities of the incineration and stabilization units described in previous sections as well as the capacity of the two planned units that will perform various specialized treatment. The two planned units will be able to provide physical separation inorganic debris treatment capacity as well as other forms of specialized treatment capacity. One unit located at the Savannah River Site is scheduled to begin operation in 1996, and the second unit located at Hanford is scheduled to begin operation in 1999.

Preliminary design of the Hazardous Waste/Mixed Waste Disposal Facility (HW/MWDF) at the Savannah River Site began in December 1991. The HW/MWDF treatment building will contain multi-treatment units. One of the treatment units included in this building is a size reduction unit. This unit is designed to reduce the size of the inorganic solid debris waste prior to stabilization. Since regulations on debris treatment standards are not yet finalized (57 FR 982), DOE states that the HW/MWDF treatment building preliminary design will provide treatment for the inorganic solid debris to meet both the current and future treatment standards. Estimates of the current waste inventory and projected future waste generation rates were used for preliminary planning purposes to size the processes. The approximate waste processing capacity is projected to be 1,100 m^3/yr.

The Hanford Waste Receiving and Process Plant Module II (WRAP II) will also contain treatment units for size reduction. This unit is designed to provide size reduction for dry solids prior to solidification by grout. Preliminary design plans for WRAP II indicate it will provide approximately 1,500 m^3/yr of waste processing capacity.

Once the size of the TC Metal Inorganic Solid Debris waste streams is reduced, DOE believes that the waste can be treated in the planned stabilization units.

Based on the capacity of the existing and planned incineration units (greater than 3,780 m^3/yr) and stabilization units (greater than 78,820 m^3/yr), as well as the capacity of the two planned units that will be able to provide capacity to perform physical separation (2,600 m^3/yr), DOE projects that it will have sufficient capacity to manage mixed wastes requiring inorganic debris treatment. The date upon which DOE's inorganic debris treatment capacity becomes sufficient will depend on the effect of a number of factors as previously discussed. DOE, however, has scheduled the unit at SRS to begin operation in 1996, and the one at Hanford in 1999.

Based on this information, EPA believes that the combined capacity of these units will be sufficient to process contaminated debris.

g. Ion exchange. Ion exchange will be used by DOE to meet the concentration-based treatment standard for the seven DOE low level CBC-applicable mixed wastes in Treatability Group 16, Low Level Mixed Waste TC Metal Wastewaters.

Two of these mixed wastes are generated at one DOE site, Savannah

River Site, at a combined rate of 810 m^3/yr. The May 8, 1992 inventory is projected to be 1,312 m^3. SRS also has two no longer generated mixed wastes with an inventory of approximately 9 m^3. These other no longer generated CBC-applicable mixed wastes at FMPC and INEL have a storage inventory of 103 m^3.

In addition to the projected CBC-applicable quantity of mixed wastes at Savannah River Site, the non-CBC-applicable pre-effective-date inventory of these mixed wastes also will require treatment by ion exchange. For all sites, the total CBC- and-non-CBC-applicable inventory of these mixed wastes projected to be in storage on May 8, 1992, is 2,535 m^3.

To seek to demonstrate sufficient capacity to manage the mixed wastes in this treatability group, DOE is planning to construct and operate an ion exchange facility at SRS and upgrade an existing facility at INEL. See Table A–3. The design capacity of the SRS facility is 4,720 m^3/yr. DOE has stated that two SRS ion exchangers have been fabricated. One unit will provide treatment for high activity wastes and the second one for low activity wastes. One ion exhanger has been placed within the high activity tank facility for installation. However, DOE believes it will need time to determine operating conditions, develop operating procedures for the systems, and determine the effectiveness of the treatment. Therefore, after the first unit is successfully operated to identify any needed improvements or modifications, the second ion exchanger will be modified if necessary and installed.

In addition to the SRS ion exchange facility, DOE is proposing to upgrade an existing ion exchange unit at INEL to provide additional treatment capacity for this treatability group. The specific details regarding this unit will be provided in the **Federal Register** Notice which EPA will be issuing in the near future to address Demonstration 40 CFR 268.5(a)(2). EPA believes therefore that DOE will be able to provide sufficient treatment capacity for the seven mixed wastes in Treatability Group 16.

h. Vitrification. DOE states that it plans to use vitrification to treat the two high level mixed wastes generated at Idaho National Engineering Laboratory. In addition, the mixed waste in Treatability Group No. 18 will undergo vitrification following calcination. Each of the two mixed wastes, high level liquid waste and high level waste calcine, constitutes its own separate treatability group. However, the two mixed wastes are related in that the high level liquid waste stream, after pretreatment, becomes the high level waste calcine stream. Therefore, the total vitrification capacity needed to manage these two mixed wastes can be represented by the generation rate and stored inventory of only one mixed waste, the high level waste calcine stream.

The generation rate of the CBC-applicable high level waste calcine stream is 465 m^3/yr. The inventory of this mixed waste which DOE projects to be in storage prior to May 8, 1992, is 4,240 m^3. In addition to the vitrification capacity needed to manage these quantities of mixed wastes, vitrification capacity also will be needed to manage the quantities of seven non-CBC-applicable high level mixed wastes being generated or stored at INEL.

The seven high level mixed wastes for which a case-by-case extension is not applicable have been divided into three treatability groups based on their treatment requirements:

- Alkaline high level waste solids (two streams)
- Alkaline high level waste slurries (four streams)
- Alkaline high level waste liquids (one stream)

The two mixed wastes in the first non-CBC-applicable treatability group, alkaline high level waste solids, can be vitrified directly. Vitrification capacity will be needed to manage the projected stored inventory of these wastes (2,674 m^3) as well as the quantities projected to be generated (21 m^3/yr).

The four mixed wastes in the second non-CBC-applicable treatability group, alkaline high level waste slurries, will need to be pretreated prior to vitrification. The solids resulting from the pretreatment need to be vitrified.

Although the wastes in this treatability group are being generated at a rate of 9,028 m^3/yr and include a projected inventory of 152,642 m^3 in storage, it is estimated that, after pretreatment, only approximately 35% of this quantity will require vitrification. Therefore, the vitrification capacity needed to manage these wastes is considerably less than that suggested by the generation rate and inventory quantities.

The single mixed waste in the third non-CBC-applicable treatability group, alkaline high level waste liquids, also will need to be pretreated prior to vitrification. The pretreatment planned for this waste includes ion exchange to remove radioactive cesium. Only the spent ion exchange resin generated from the pretreatment will require subsequent vitrification. No other non-CBC-applicable high level waste liquids are generated which will require vitrification treatment. Therefore, the 5,360 m^3 stored inventory of this waste will result in a much smaller quantity of waste requiring vitrification. A minimum volume reduction factor of 10-to-1 is estimated to result from pretreatment.

The liquid phase wastes resulting during the pretreatment of the mixed wastes in the slurry and liquid treatability groups described above will be suitable for grout stabilization.

To seek to demonstrate sufficient capacity to manage this waste, DOE is currently planning to construct the Idaho Waste Immobilization Facility (IWIF) at INEL. See Table A–3.

DOE states that the final treatment for the high level liquid waste and the high level waste calcine will be glass-ceramic type vitrification. This process will be implemented in the IWIF. DOE's supporting studies have concluded that the glass-ceramic process is the preferred method for INEL high level waste immobilization. Based on technical evaluations, and laboratory and pilot plant mockup tests, EPA believes the glass-ceramic process is more efficient than the glass process for calcine waste forms.

The high level liquid waste is currently treated on-site to render the waste non-liquid and non-corrosive. The high level waste calcine resulting from this treatment is placed in an engineered storage unit, known as the calcine bin sets (see appendix, section 10). The IWIF will be sized to provide sufficient treatment capacity for the projected inventory of high level waste calcine.

Treatment will be provided in two phases. First, the Idaho Process Verification Facility (IPVF) will provide the pilot scale demonstration project that will verify the glass-ceramic process. Following this successful demonstration, the full-scale treatment will be brought on-line at the IWIF. DOE states that it also has established the Idaho High Level Waste Technical Development and Process Verification Program to develop and implement technology for the treatment, immobilization, and disposal of high level waste.

DOE believes that the glass-ceramic form meets the definition of high level vitrification (HLVIT) in 40 CFR 268.42 Table 1, Technology Codes and Descriptions of Technology-Based Standards: "Vitrification of high level mixed radioactive wastes in units in compliance with all applicable radioactive protection requirements under control of the Nuclear Regulatory Commission".

To support its conclusions that the glass-ceramic process (waste form) will

provide adequate immobilization, DOE submitted technical development reports which are available in the RCRA Docket. DOE has previously identified the glass-ceramic waste form as similar to the Savannah River glass vitrification waste form. DOE states that the glass-ceramic waste form of vitrification will "provide treatment of the high-level mixed waste" pursuant to applicable nuclear waste acceptance specifications as referenced in the promulgation of the HLVIT treatment standard in the Third Third rulemaking (55 FR 22627). DOE has also compared the definition and the waste acceptance criterion for the Defense Waste Processing Facility (DWPF) high level waste form to the data on glass ceramic waste form. From the comparison, the glass-ceramic waste form meets the defintion of borosilicate waste glass as well as the waste criterion applicable to such material. The glass-ceramic waste form contains a glass phase that encapsulates a crystalline ceramic structure (containing the radioactivity) on a microscopic scale. The waste acceptance criterion is based on leachability studies. DOE indicates that the Savannah River vitrified waste form meets the acceptance criterion. Since the glass ceramic process will provide low leach rates equivalent to the glass process vitrification, it is expected to meet the acceptance criterion as well.

EPA has also determined that the glass-ceramic waste form that DOE is proposing to use is an acceptable technology to meet BDAT.

Procurement and construction are scheduled for FY 2007 through FY 2011, and DOE plans to bring the facility on line in FY 2014. Although DOE has not at this time made a quantitative determination of the capacity of the immobilization facility, it has stated that it will be sized to provide sufficient treatment capacity for the project inventory of high level mixed waste. Based on this commitment and DOE's desire to provide appropriate treatment for these high level wastes, EPA believes that DOE has met the requirements of Demonstration 40 CFR 268.5(a)(4) for these high level mixed wastes at the INEL.

5. Demonstration 40 CFR 268.5(a)(5)

He provides a detailed schedule for obtaining required operating and construction permits or an outline of how and when alternative capacity will be available.

DOE provided schedule milestones for its planned treatment facilities with information sheets in appendices F through K of the application. In letters dated January 21, 1992, and April 1, 1992, DOE provided revised and additional, detailed milestones. These letters are available in the RCRA Docket. These milestones are listed in Table C–1, "Treatment Facilities Schedule Milestones". Table C–1 shows DOE's schedules for performing engineering design (when applicable), obtaining construction and operating permits, and making alternative capacity available.

EPA believes that these milestones satisfy the requirements of Demonstration 40 CFR 268.5(a)(5).

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TABLE C-1
TREATMENT FACILITIES
SCHEDULE MILESTONES

TREATMENT TECHNOLOGIES Incineration		Initiate Title I (Prelim.) Design	Initiate Title II (Final) Design	Complete Procure of Major Construct. Contracts(1)	Apply for RCRA Part B Permit	Receive RCRA Part B Permit	Begin Construct.	Bring Treatment On Line
1. TSCA Incinerator (K-25)	Scheduled Date	Compl.	Compl.	Compl.	Compl.	Compl.	Compl.	Currently Available
2. WERF Incinerator (INEL)	Scheduled Date	Complete. Existing Facility Currently Being Upgraded.			11/92	Operates Under Interim Status	Compl.	3/93
3. Controlled Air Incinerator (LANL)	Scheduled Date	Complete. Existing Facility Currently Being Upgraded.			Interim Status	Operates Under Interim Status	Compl.	3Q FY 95
4. Mound Glass Melter (Mound)	Scheduled Date	Existing Facility Currently Waiting State Approval of Trial Burn Plan and RCRA Part B Permit				Operates Under Interim Status	Compl.	1993 (9)
5. Consolidated Incinerator Facility (SRS)	Scheduled Date	Compl.	Compl.	(2), (8)	Compl.	8/92	(2),(8)	1994 (3)
6. Fluidized Bed Unit (RFP)	Scheduled Date	1 Q FY 95	4 Q FY 95	2Q FY 97	1 Q FY 96	2 Q FY 97 Trial Burn 1Q FY01 Final	3Q FY 97	1Q FY 02
7. Idaho Waste Process. Facility-Incineration Unit (INEL)	Scheduled Date	FY 97	FY 98	FY 2000	FY 98	Pending State Approval	FY 2000	FY 2004

TREATMENT TECHNOLOGIES Oxidation		Initiate Title I (Prelim.) Design	Initiate Title II (Final) Design	Complete Procure of Major Construct. Contracts(1)	Apply for RCRA Part B Permit	Receive RCRA Part B Permit	Begin Construct.	Bring Treatment On Line
1. Mixed Waste Treatment Facility (Hanford)	Scheduled Date	Compl.	Compl.	Compl.	Interim Status 4/92	11/93	Initiated	3/93
2. HW Trt Fac Reactive Waste Trtmnt Unit (LANL)	Scheduled Date	4Q FY91	4Q FY92	4Q FY94	4Q FY93	1Q FY94	1Q FY95	3Q FY97
3. Maintenance and Storage Facility (Hanford)	Scheduled Date	1/91	9/92	4/93	11/93	11/95	4/93	4/95

TREATMENT TECHNOLOGIES Stabilization		Initiate Title I (Prelim.) Design	Initiate Title II (Final) Design	Complete Procure of Major Construct. Contracts(1)	Apply for RCRA Part B Permit	Receive RCRA Part B Permit	Begin Construct.	Bring Treatment On Line
1. WERF - Grout Facility (INEL)	Scheduled Date	Compl.	Compl.	Compl.	Interim Status 11/92	Interim Status	Compl.	Currently Available
2. Z-Area Saltstone (SRS)	Scheduled Date	Compl.	Compl.	Compl.	Compl.	Compl.	Compl.	Currently Available
3. Cement Solidification System (WVDP)	Scheduled Date	Compl.	Compl.	Compl.	Compl.	Compl.	Compl.	Currently Available
4. Unit 42 Liquid Process Waste Trtmnt Fac. (RFP)	Scheduled Date	Compl.	Compl.	Compl.	Compl.	Compl.	Compl.	Currently Available
5. Grout Treatment Facility (Hanford)	Scheduled Date	Compl.	Compl.	Compl.	Compl.	12/92	3/90	10/92
6. Halliburton Solidification (RFP)	Scheduled Date	Compl.	Compl.	Compl.	Interim Status (12)	Interim Status (12)	4Q FY92	1992
7. RMW Management Facility - Stabilization (SNLA)	Scheduled Date	Compl.	Upgrade 3Q 92	Upgrade 3Q 93	Interim Status Apply Part B - 1Q 95	2003	4Q 93	2Q 94
8. MW Treatment Facility - Stabilization Unit (Hanf)	Scheduled Date	Compl.	Compl.	Compl.	Interim Status 4/92	11/93	4/90	3/93
9. CIF Ashcrete Facility (SRS)	Scheduled Date	Compl.	Compl.	(2)	Compl.	6/92	(2)	(3)
10. HW Treatment Facility - Stabilization Unit (LANL)	Scheduled Date	Initiated	4Q FY92	4Q FY94	4Q FY93	4Q FY94	4Q FY95	3Q FY97
11. M-Area Waste (Disposal Facility (SRS)	Scheduled Date	9/94	6/95	12/95	Wastewater Permit	Wastewater Permit	(2)	12/97
12. HW/MW Disposal Facility - Stabilization Unit (SRS)	Scheduled Date	Initiated	3/93	(2)	10/93	(4)	(2)	(5)
13. Microwave Melting Solidification System (RFP)	Scheduled Date	2Q FY 98	4Q FY 98	2Q FY 00	2Q FY 98	3Q FY 00	3Q FY 00	1Q FY 03

TREATMENT TECHNOLOGIES Stabilization		Initiate Title I (Prelim.) Design	Initiate Title II (Final) Design	Complete Procure of Major Construct. Contracts(1)	Apply for RCRA Part B Permit	Receive RCRA Part B Permit	Begin Construct.	Bring Treatment On Line
14. Polymer Solidification (RFP)	Scheduled Date	1Q FY 97	3Q FY 97	1Q FY 98	2Q FY 97	1Q FY 98	2Q FY 96	1Q FY00
15. Idaho Waste Process. Facility-Stabilization Unit (INEL)	Scheduled Date	FY 97	FY 98	FY 00	FY 98	Pending State Approval	FY 2000	FY 2004
16. Decontam . and Waste Treat. Facility-Stabilization Unit (LLNL)	Scheduled Date	12/92 (6)	7/93	8/96	10/94	7/96	8/96	11/99
17. Waste Receiving and Process. Plant (Hanford)	Scheduled Date	1/94 (7)	1/95	11/96	8/94	8/96	8/96	9/99

TREATMENT TECHNOLOGIES Lead Decontamination/ Macroencapsulation		Initiate Title I (Prelim.) Design	Initiate Title II (Final) Design	Complete Procure of Major Construct. Contracts(1)	Apply for RCRA Part B Permit	Receive RCRA Part B Permit	Begin Construct.	Bring Treatment On Line
1. Lead Encaps./ Lead Decon. and Recycle Unit (LANL)	Scheduled Date	N/A	N/A	N/A	N/A (Recycling)	N/A (Recycling)	N/A	12/92 (Recycling)
2.Lead Recycling Fac (INEL)	Scheduled Date	1Q FY93	1Q FY94	3Q FY94	N/A (Recycling)	N/A (Recycling)	4 Q FY 94	2Q FY 95 (Recycling)
3. HW/MW Disposal Facility- Lead Macroencaps. Unit (SRS)	Scheduled Date	Initiated	3/93	(2)	10/93	(4)	(2)	(5)

TREATMENT TECHNOLOGIES Vitrification		Initiate Title I (Prelim.) Design	Initiate Title II (Final) Design	Complete Procure of Major Construct. Contracts(1)	Apply for RCRA Part B Permit	Receive RCRA Part B Permit	Begin Construct.	Bring Treatment On Line
1. Waste Immobilization Facility (INEL)	Scheduled Date	FY 04	FY 04	FY 07	FY 02	FY10	FY 08	FY14

TREATMENT TECHNOLOGIES Other Low Level RMW Treatment Facilities		Initiate Title I (Prelim.) Design	Initiate Title II (Final) Design	Complete Procure of Major Construct. Contracts(1)	Apply for RCRA Part B Permit	Receive RCRA Part B Permit	Begin Construct.	Bring Treatment On Line
1. SRL In-Tank Treatment System (SRS)	Scheduled Date	Compl.	Compl.	Compl.	(10)	(10)	Initiated	7/92
2. HW/MW Disposal Fac.-Mercury Trtmnt Unit (SRS)	Scheduled Date	Initiated	3/93	(2)	10/93	(4)	(2)	(5)
3. Waste Receiving and Process. Plant, Module II(Hanford)	Scheduled Date	1/94	1/95	11/96	8/94	8/96	8/96	9/99
4. Decontam. and Waste Trtmnt Fac.-Cyanide Destruction (LLNL)	Scheduled Date	12/92	7/93	8/96	10/94	7/96	8/96	11/99
5. TAN Portable Water Treatment Unit (INEL)	Scheduled Date	Compl.	Compl.	Compl.	Interim Status	Operates Under Interim Status	Compl.	(11)

NOTES:

FY Means Fiscal Year (October 1-September 30, following).
N/A Means Not Applicable.
(1) Where Applicable.
(2) Within 90 days after permit approval (FFCA commitment).
(3) Within 39 months after permit approval (FFCA commitment).
(4) Expected 2 years after application.
(5) Expected 2 years after construction begins.
(6) Contract let for design criteria.
(7) Contract let for conceptual design.
(8) Construction bid package prepared, awaiting issuance of RCRA permit to release for bid.
(9) Pending Permit issuance.
(10) Interim Status Modification.
(11) Expected availability date is after completion of current cleanup project which is expected to complete July 1992. Environmental and safety documentation require upgrading.
(12) Modification to be submitted.

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6. Demonstration 40 CFR 268.5(a)(6)

The applicant must demonstrate that he has arranged for adequate capacity to manage his waste during an extension and has documented in the application the location of all sites at which the waste will be managed.

With respect to this demonstration, DOE needs to show that it has sufficient capacity to manage the mixed wastes during the requested extension period. In particular, DOE needs to demonstrate that at each facility, they have sufficient storage capacity to manage these wastes in accordance with the RCRA hazardous waste regulations. In making this evaluation, DOE has provided information on generation rates, inventories, and storage facilities of the CBC-applicable mixed wastes. In addition, DOE has provided information on non-CBC-applicable mixed wastes; these wastes were factored into DOE's capacity analysis since they will be competing with CBC-applicable mixed wastes for available storage capacity.

For each of the 31 facilities, DOE has shown that, against the total storage capacity available at each facility, DOE has sufficient storage capacity for the mixed wastes managed at each facility during the course of the extension period (May 8, 1992 to May 8, 1993) and the anticipated extension renewal period (May 8, 1993 to May 8, 1994). This demonstration is in the appendix of this notice. As a result, EPA believes that DOE has met the requirements of Demonstration 40 CFR 268.5(a)(6).

7. Demonstration 40 CFR 268.5(a)(7)

Any waste managed in a surface impoundment or landfill during the extension period will meet the requirements of paragraph (h)(2) of 40 CFR 268.5.

The only surface impoundments to be used during the requested extension period are the ICPP Percolation Ponds 1 and 2 at INEL. DOE is currently managing one CBC-applicable mixed waste, the P & U Listed RAD Contaminate Condensate, by mixing it with industrial wastewater and discharging it to the ICPP ponds. DOE states that these ponds are currently regulated as interim status surface impoundments. Table 10–3 in the appendix provides the generation rate, EPA waste codes, and treatment technology specified as the LDR treatment standard.

Prior to mixing, this mixed waste is a characteristically corrosive California List waste; however, the industrial wastewater effectively neutralizes the waste to remove the corrosivity characteristic. The mixed waste also contains low concentrations of F-listed solvents; however, DOE believes the concentrations of these solvents meet the corresponding concentration-based LDR treatment standards for the F-listed solvents prior to mixing with industrial wastewater. The mixed waste also contains low concentrations of P & U Listed hazardous wastes. Prior to mixing with industrial wastewater, this mixed waste also meets all applicable concentration-based LDR treatment standards for the P & U Listed wastewaters. However, it does not meet the LDR treatment standards for watewaters for those P & U listings with a technology-based treatment standard (i.e., wet air or chemical oxidation followed by carbon adsorption). As a result, this waste will become prohibited from land disposal on May 8, 1992, and DOE is requesting a case-by-case extension.

Between May 8, 1992 and September 23, 1992, DOE states it plans to continue to neutralize the P & U Listed RAD Contaminated Condensate mixed waste with industrial wastewater and to dispose of this waste in the ponds identified above. After September 23, 1992, however, DOE plans to cease the neutralization process as well as the disposal of this stream in the ICPP ponds. See the appendix, section 10, which describes DOE's management strategy after that date for this mixed waste.

In accordance with EPA's September 23, 1988, Clarification Notice (53 FR 37045), DOE submitted a revised part A notification to EPA before March 23, 1989, thereby qualifying the ICPP ponds for RCRA interim status. The September 23, 1988, notice also triggered section 3005(j)(6)(A) of RCRA, under which facilities qualifying for interim status are granted a period of four years to meet the minimum technological requirements as set forth in section 3005(j)(1) and 3004(o) of RCRA. DOE states that during the four-year period, affected interim status surface impoundments are in compliance with the requirements of section 3005(j)(1) and such units are in compliance until September 23, 1992, regardless of whether the minimum technological requirements have been installed on the units.

In evaluating DOE's request for the case-by-case extension, EPA has reviewed the conflict in RCRA concerning the deadline by which surface impoundments receiving wastes that are newly identified or listed as hazardous must come into compliance with minimum technological requirements of section 3004(o)(1)(A). As has been pointed out by EPA (57 FR 999), section 3005(i)(6) allows four years for retrofitting or closing impoundments receiving newly identified or listed wastes. On the other hand, section 3004(h)(4) states that throughout a national capacity variance or case-by-case extension, wastes may be placed in a surface impoundment only if it is in compliance with the minimum technological requirements.

EPA has recently proposed an amendment to the 40 CFR 268.5 interpretation which would allow interim status surface impoundments being used in connection with a case-by-case extension up to four years to meet the minimum technological requirements of section 3004(o) (57 FR 4170, February 4, 1992). Accordingly, if that proposal is finalized, as EPA currently anticipates, DOE's use of the impoundment discussed here will be permissible.

Based on this interpretation and on DOE's stated plan to cease mixed waste discharges to the ICPP ponds and close them by September 22, 1992, EPA believes that DOE has met the requirements of Demonstration 40 CFR 268.5(a)(7).

8. Demonstrations for Transuranic Mixed Waste

As described in section II.A.2.b(21), DOE plans to manage transuranic mixed wastes by storing them at individual generating facility sites until such time as the Waste Isolation Pilot Plant (WIPP) is able to receive and dispose of them. In accordance with Public Law 96–164, DOE undertook and completed the development, design, and construction of the WIPP. EPA believes that DOE therefore made a good-faith effort to provide the capacity to manage transuranic mixed wastes and has met the requirements of Demonstration 40 CFR 268.5(a)(1), "Good-faith effort". The requirement in 40 CFR 268.5(a)(2), "Binding Contractual Commitment" is not applicable as the capacity has already been constructed, and only legal impediments not controlled by DOE prevent its operation at this time.

To make the WIPP available requires withdrawal of the land from the public domain. A Federal court has determined that this withdrawal requires Congressional action. The fact that this action has not yet occurred is a circumstance which EPA believes is beyond DOE's control. In addition, on going litigation concerning permitting issues also prevents DOE from shipping mixed wastes to WIPP. Therefore EPA believes that DOE has met the requirements of Demonstration 40 CFR 268.5(a)(3).

Regarding Demonstration 40 CFR 268.5(a)(4), "Capacity being Constructed will be Sufficient", EPA has noted that it granted DOE a conditional no-migration

determination for testing and experimentation to determine the long-term acceptability of the WIPP (55 FR 47700). Under this determination DOE can place up to 8,500 drums of mixed waste; this is 1% of the WIPP design capacity. These conditions notwithstanding, EPA concluded in its review of DOE's no migration petition that the WIPP is a promising site for the permanent disposal of mixed waste. The planned capacity of the WIPP will be sufficient to hold all of DOE's transuranic mixed wastes. While the WIPP has been approved for a test phase only, EPA believes that the uncertainties as to ultimate use of the WIPP are not so great as to preclude considering it in assessing DOE's ultimate disposal capacity. Therefore, EPA believes that Demonstration 40 CFR 268.5(a)(4) has been met.

For Demonstration 40 CFR 268.5(a)(6), "Detailed Scheduled/How and When Alternate Capacity Available", DOE, as described above, completed construction of WIPP and obtained a no-migration determination. Given the uncertainties involved with the land withdrawal and litigation, EPA believes DOE is unable at this time to provide meaningful schedules for proceeding with providing treatment capacity. EPA believes that DOE, in completing construction and requesting land withdrawal, has provided and proceeded on what schedules it can and has therefore met the requirements of Demonstration 40 CFR 268.5(a)(5).

Demonstration 40 CFR 268.5(a)(6), "Storage Capacity", is reviewed facility by facility in the appendix of this notice. Demonstration 40 CFR 268.5(a)(7), "Impoundments or Landfills", is not applicable.

III. Consultation With States

In accordance with 40 CFR 268.5(e), EPA has consulted with the States of New York, Pennsylvania, Kentucky, South Carolina, Tennessee, Illinois, Ohio, New Mexico, Texas, Missouri, Colorado, California, Washington, and Idaho. DOE facilities are located in each of these States. A record of these consultations and comments provided by the States have been placed in the Docket. EPA will evaluate these comments and any others received and will provide a response with the Notice of Final Determination.

IV. EPA's Proposed Action

For the reasons discussed above, EPA believes that, with the exception of Demonstration 40 CFR 268.5(a)(2), DOE has satisfied the demonstrations of 40 CFR 268.5. As stated previously in section II.C.2, EPA anticipates that, in the near future, it will separately issue for public comment a companion proposal addressing whether DOE's application can be accepted with respect to Demonstration 40 CFR 268.5(a)(2).

Therefore, EPA is today proposing to grant a one-year extension of the May 8, 1992, LDR effective date for the 352 CBC-applicable mixed wastes for which DOE has requested an extension, to the extent that DOE can meet the requirements in 40 CFR 268.5(a)(2). If the extension is granted, these wastes, which would not be prohibited from land disposal, could continue to be managed in the manner in which they are currently handled, but not later than May 8, 1993 (unless the extension is renewed for up to one additional year, in which case it would be not later than May 8, 1994), while the proposed treatment facilities are being constructed and developed. EPA notes that its review was made for the two-year period.

For any petition that is granted, the petitioner must comply with the provisions of 40 CFR 268.5 (f) and (g), and must submit progress reports that address the progress being made toward providing the necessary treatment capacity, identify any delay or possible delay in developing the capacity, and describe the mitigation actions being taken in response to such an event. Because of the relatively long schedules proposed by DOE, EPA believes that progress can be adequately monitored on a quarterly basis. EPA must also be notified of any change in the conditions specified in the petition. The extension remains in effect unless DOE fails to make a good-faith effort to meet the schedule for completion, a required permit is denied or revoked, conditions certified in the application change, or DOE violates any law or regulations in 40 CFR parts 260–266 and 268.

If the extension is denied, however, DOE will, effective May 8, 1992, be subject to the applicable LDR regulations with respect to these mixed wastes.

Should EPA make a final determination to approve an extension of the LDR effective date, EPA will propose certain additional conditions:

1. Within 30 days of issuance of the extension, DOE must submit a plan for continuing to search for and utilize commercial treatment facilities;

2. DOE must keep EPA advised, via the required progress reports, of its utilization of commercial capacity, as well as its progress in designing, permitting, and constructing its own facilities;

3. All storage facilities identified in the application must comply with the applicable RCRA interim status or permit requirements, including any regulations promulgated pursuant to subtitle C of RCRA.

4. Effective with the next issue, DOE must update its Five-Year Plan to explicitly incorporate all commitments which are the bases of the approval of the final extension; and

5. Approval of the extension will not countermand or otherwise affect DOE's obligations under any existing Federal Facilities Compliance Agreements. Compliance with all provisions of such agreements relating to steps to be taken that will serve the purpose of providing treatment, recovery, or disposal capacity for Third Third mixed wastes is a condition of the granting of this extension. Failure to comply with such a provision shall be a ground for revocation for the extension.

Authority: Sections 1006, 2002(a), 3001, and 3004 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976, as amended (42 U.S.C. 6905, 6912(a), 6921, and 6924).

Dated: May 7, 1992.

Don R. Clay,

Assistant Administrator.

Appendix—Evaluation of Facility-Specific Demonstrations

In the sections that follow are descriptions of each of the 31 facilities for which DOE is requesting an extension. Information is provided on waste streams, treatability groups, treatment technologies, generation rates, inventories, and storage facilities. Also included are EPA's evaluations of Demonstration 40 CFR 268.5(a)(6).

1. Argonne National Laboratory—East (ANL–E); Argonne, Illinois

The Argonne National Laboratory—East (ANL–E) occupies a 1,700 acre tract located 22 miles southwest of Chicago. ANL–E is a multi-disciplinary research and development laboratory conducting both basic and applied research in a variety of fields. Major components of its mission include: (1) Development and operation of national research facilities for use in research on basic and technology-related problems; (2) basic experimental and theoretical research on fundamental problems in the physical, life, and environmental sciences to support development of energy technologies; (3) technology directed research in advanced fission reactors and other technologies for energy applications; and (4) technical evaluation support to DOE and other Federal agencies on nationally

important projects and technology options. ANL–E is seeking extensions to the effective date for three CBC-applicable low level mixed wastes and one CBC-applicable transuranic mixed waste that are generated and stored at ANL–E as shown in Tables 1–1, 1–2, and 1–3.

a. Waste stream and treatment information. ANL–E currently generates both CBC-applicable low level mixed waste and CBC-applicable transuranic mixed waste; ANL–E does not generate any CBC-applicable high level mixed waste. Two CBC-applicable low level mixed wastes generated at ANL–E have a combined generation rate of 3.20 m^3/yr. The other low level mixed waste is classified as CBC-applicable even though DOE projects it will not be generated after May 8, 1992. The reason for including this mixed waste is that DOE believes this mixed waste may need to be managed in a manner that constitutes removal from storage during the extension period and therefore becomes subject to the LDR storage prohibition. This mixed waste is referred to as no longer generated mixed waste.

The three low level mixed wastes fall into three treatability groups which in turn correspond to three treatment technologies. Treatability groups, generation rates, and waste codes are shown in Table 1–1 for the two low level mixed wastes that will be generated after May 8, 1992. The treatability group, waste code, and the existing inventory for the no longer generated mixed waste are shown in Table 1–2.

The transuranic mixed waste is generated at a rate of 0.02 m^3/yr as shown in Table 1–3. While DOE plans to store both low level and transuranic mixed wastes at ANL–E during the extension period, DOE's long-term management strategy for transuranic mixed waste is different than for low level mixed waste. As discussed in section II.A.2.b.(21), DOE plans to store and manage all transuranic mixed waste at its facilities until such time as the WIPP is able to accept the wasters.

b. Demonstration 40 CFR 268.5(a)(6). ANL–E has seven storage facilities that will be able to accept containerized mixed waste. DOE states that each facility has RCRA interim status. The name, building number, and design capacity for each container storage facility are provided in Table 1–4. The total design capacity of these facilities is 106 m^3.

TABLE 1–1.—ANL–E CBC–APPLICABLE LOW LEVEL MIXED WASTE

Waste stream name	Annual Generation Rate (m^3/yr)	EPA waste codes	Treatment technology
Treatability group No. 8: LLW TC metal nonwastewaters:			
Evaporator/concentration bottom waste	2.64	D007, D009	Stabilization.
Subtotal	2.64		
Treatability group No. 12: radioactive lead solids:			
Solid (mixed) waste	.56	D008	Lead decontamination and recycle/Macroencapsulation.
Subtotal	.56		
Total (all treatability groups)	3.20		

TABLE 1–2.—ANL–E CBC–APPLICABLE LOW LEVEL MIXED WASTE NO LONGER GENERATED

Waste stream name	EPA Waste codes	Inventory As of May 8, 1992	Treatment technology
Treatability Group No. 3: LLW unquantifiable P&U listed organic Nonwastewaters—C,N,O			
Contaminated animal parts	U210	3.79	Incineration.
Subtotal		3.79	
Total (all treatability groups)		3.79	

TABLE 1–3. ANL–E CBC–APPLICABLE TRANSURANIC MIXED WASTE

Waste stream name	Annual Generation Rate (m^3/yr)	EPA waste codes
IFR lab scale electrorefinery wastes	0.02	D005, D006.
Subtotal	.02	
Total	.02	

TABLE 1–4. ANL–E MIXED WASTE CONTAINER STORAGE FACILITIES

Facility name	Building Number	Design capacity (m^3)
Building 200–M–Wing	200	4.38
Interim TSD facility	306	24.19
Staging area	317	15.15
Storage	374A	43.72
Waste management office	329	14.02
Building 325C west	325C	4.58
Building 325C east	325C	0.76
Total		106.80

In the application, DOE has provided information on the container storage capacity needs for CBC-applicable and non-CBC-applicable mixed wastes. This information includes the annual generation rate, 1990 year-end inventory, and projected storage inventory as of May 8, 1992, for each mixed waste. In addition, the application provides estimates of the annual generation rates during the course of the extension period (May 8, 1992 to May 8, 1993) and the anticipated extension renewal period (May 8, 1993 to May 8, 1994).

In its evaluation of the required storage capacity, DOE included both CBC-applicable and non-CBC-applicable mixed wastes. Non-CBC-applicable mixed wastes are factored into the DOE capacity analysis since they will be competing with CBC-applicable mixed wastes for available storage capacity. Against a storage capacity of 106 m^3, DOE stated the mixed waste inventories to be on May 8, 1992, 72.5 m^3; on May 8, 1993, 76.1 m^3; and on May 8, 1994, 79.6 m^3. DOE's evaluation shows that ANL–E will have sufficient container storage capacity for the three CBC-applicable low level mixed wastes and one CBC-applicable transuranic mixed waste during the course of the extension period (May 8, 1992 to May 8, 1993) and the anticipated extension renewal period (May 8, 1993 to May 8, 1994). Based on the above information, EPA believes DOE has met the requirements of Demonstration 40 CFR 268.5(a)(6) for ANL–E.

2. Argonne National Laboratory—West (ANL–W); Idaho Falls, Idaho

The Argonne National Laboratory—West (ANL–W) is located on the southeastern portion of the INEL near Idaho Falls, Idaho. The primary mission is research and development in support of the nation's fast-reactor program. Reactor complexes at ANL–W include the Experimental Breeder Reactor No. 2, the Transient Reactor Test Facility, and the Zero Power Physics Reactor. ANL–W is seeking extensions to the effective date for 10 CBC-applicable low level mixed wastes and seven CBC-applicable transuranic mixed wastes streams that are generated and stored at ANL–W as shown in Tables 2–1, 2–2, 2–3, and 2–4.

a. Waste stream and treatment information. ANL–W currently generates both CBC-applicable low level mixed waste and transuranic mixed waste: ANL–W does not generate any CBC-applicable high level mixed waste. Seven low level mixed wastes generated at ANL–W have a combined generation rate of 0.852 m^3/yr. The other three low level mixed wastes are classified as CBC-applicable even though DOE projects they will not be generated after May 8, 1992. The reason for including these mixed wastes is that DOE believes they may need to be managed in a manner that constitutes removal from storage during the extension period and therefore become subject to the LDR storage prohibition. These mixed wastes are referred to as no longer generated mixed wastes.

The 10 low level mixed wastes fall into six treatability groups which in turn correspond to five treatment technologies. Treatability groups, generation rates, and waste codes are shown in Table 2–1 for the low level mixed wastes that will be generated after May 8, 1992. Treatability groups, waste codes, and existing inventories for the no longer generated mixed wastes are shown in Table 2–2.

The combined generation rate of the CBC-applicable transuranic mixed wastes is 0.612 m^3/yr as shown in Table 2–3. EPA waste codes and the May 8, 1992, inventories for the no longer generated transuranic mixed wastes are given in Table 2–4. While DOE plans to store both low level and transuranic mixed wastes at ANL–W during the extension period, DOE's long-term management strategy for transuranic mixed waste is different than for low level mixed waste. As discussed in section II.A.2.b(21), DOE plans to store and manage all transuranic mixed wastes at its facilities until such time as the WIPP is able to accept the wastes.

b. Demonstration 40 CFR 268.5(a)(6). ANL–W has two storage facilities that will be able to accept containerized mixed waste. DOE states that each facility has RCRA interim status. The name, building number, and design capacity for each container storage facility are listed in Table 2–5. The total design capacity of these facilities is 208 m^3.

TABLE 2–1. ANL–W CBC.—APPLICABLE LOW LEVEL MIXED WASTE

Waste stream name	Annual generation rate (m^3/yr)	EPA waste codes	Treatment technology
Treatability group No. 6: LLW TC Metal organic solid debris:			
Contaminated HG–IBC Cask Main	0.020	D009	Incineration followed by stabilization.
Subtotal	0.020		
Treatability group No. 8: LLW TC Metal nonwastewaters:			
Electrorefiner stripped salt—BA & CD*	0.110	D005, D006	Stabilization.
Subtotal	0.110		

TABLE 2-1. ANL-W CBC.—APPLICABLE LOW LEVEL MIXED WASTE—Continued

Waste stream name	Annual generation rate (m^3/yr)	EPA waste codes	Treatment technology
Treatability group No. 11: LLW water reactives:			
Sodium (contaminated) tin bismuth alloy	0.170	D001, D003	Oxidation (thermal, water reaction).
Sodium—LLW	0.230	D001, D003	
Sodium Potassium	0.040	D001, D003	
Subtotal	0.440	D001, D003	
Treatability group No. 12: LLW radioactive lead solids:			
IFR experiment lead waste	0.072	D008	Lead decontamination and recycle/macroencapsulation.
Subtotal	0.072		
Treatability group No. 13: LLW TC inorganic solid debris:			
U-CD glove box waste	0.210	D006	Inorganic debris treatment.
Subtotal	0.210		
Total (all treatability groups)	0.852		

TABLE 2-2. ANL-W CBC.—APPLICABLE LOW LEVEL MIXED WASTE NO LONGER GENERATED

Waste stream name	EPA waste codes	Inventory as of May 8, 1992	Treatment technology
Treatability group No. 1: LLW ignitable liquids—TOC10%:			
Ethanol-Vermiculite-Spillignitable Soln	D001	0.420	Incineration (followed by stabilization if necessary).
Subtotal		0.420	
Treatability group No. 6: LLW TC metal organic solid debris:			
Potassium chromate on blotter paper	D007	0.210	Incineration followed by stabilization.
Subtotal		0.210	
Treatability group No. 12: LLW radioactive lead solids:			
Lead	D008	0.870	Lead decontamination and recycle/macroencapsulation.
Subtotal		0.870	
Total (all treatability groups)		1.500	

TABLE 2-3. ANL-W CBC.—APPLICABLE TRANSURANIC MIXED WASTE

Waste stream name	Annual generation rate (m^3/yr)	EPA waste codes
Sodium—TRU	0.001	D001, D003
TRU-CD hot cell waste	0.420	D008
Electrorefiner insolubles cadmium	0.019	D006
Electrorefiner stripper cadmium	0.022	D006
Elemental hardware FCF waste	0.150	D005, D006
Subtotal	0.612	
Total	0.612	

TABLE 2-4. ANL-W CBC.—APPLICABLE TRANSURANIC MIXED WASTE NO LONGER GENERATED

Waste stream name	Annual generation rate (m^3/yr)	EPA waste codes	Inventory as of May 8, 1992
Lead shield plugs	0.000	D008	0.025
Sodium potassium stored at RSWF	0.000	D001, D003	0.000
Total			0.025

TABLE 2-5. ANL-W.—MIXED WASTE CONTAINER STORAGE FACILITIES

Facility name	Building No.	Design capacity (m^3)
Radioactive scrap and waste facility	771	193.00
Radioactive sodium storage trailers	797, 791	15.00
Total		208.00

In the application, DOE has provided information on the container storage capacity needs for CBC-applicable and non-CBC-applicable mixed wastes. This information includes the annual generation rate, 1990 year-end inventory, and projected storage inventory as of May 8, 1992, for each mixed waste. In addition, the application provides estimates of the annual generation rates during the course of the extension period (May 8, 1992 to May 8, 1993) and the anticipated extension renewal period (May 8, 1993 to May 8, 1994).

In its evaluation of the required storage capacity, DOE included both CBC-applicable and non-CBC-applicable mixed wastes. Non-CBC-applicable mixed wastes are factored into the DOE capacity analysis since they will be competing with CBC-applicable mixed wastes for available storage capacity. Against a total storage capacity of 208m^3, DOE stated the mixed waste inventories to be on May 8, 1992, 11.6 m^3; on May 8, 1993, 13.1m^3, and on May 8, 1994, 14.7 m^3. DOE's evaluation shows that ANL–W will have sufficient container storage capacity for the 10 CBC-applicable low level mixed wastes and seven CBC-applicable transuranic mixed wastes during the course of the extension period (May 8, 1992 to May 8, 1993) and the anticipated extension renewal period (May 8, 1993 to May 8, 1994). Based on the above information, EPA believes that DOE has met the requirements of Demonstration 40 CFR 268.5(a)(6) for ANL–W.

3. Bettis Atomic Power Laboratory (BAPL); West Mifflin, Pennsylvania

The Bettis Atomic Power Laboratory (BAPL) is operated by the Westinghouse Electrical Corporation for the U.S. Department of Energy (DOE) and is engaged in the design and development of Naval nuclear propulsion reactors. BAPL is seeking an extension to the effective date for 11 CBC-applicable low level mixed waste streams that are generated and stored at BAPL as shown in Tables 3–1 and 3–2.

a. Waste stream and treatment information. BAPL currently generates one CBC-applicable low level mixed waste having a generation rate of 0.05 m^3/yr. The other ten low level mixed wastes are classified as CBC-applicable even though DOE projects they will not be generated after May 8, 1992. The reason for including these mixed wastes is that DOE believes they may need to be managed in a manner that constitutes removal from storage during the extension period and therefore become subject to the LDR storage prohibition. These mixed wastes are referred to as no longer generated mixed wastes. BAPL does not currently generate any CBC-applicable high level or transuranic mixed wastes.

The CBC-applicable low level mixed wastes fall into three treatability groups which in turn correspond to three treatment technologies. Treatability groups, generation rates, and waste codes are shown in Table 3–1 for low level mixed wastes that will be generated after May 8, 1992. Treatability groups, waste codes, and existing inventories for the no longer generated mixed wastes are shown in Table 3–2.

b. Demonstration 40 CFR 268.5(a)(6). BAPL has one storage facility that will be able to accept containerized mixed wastes. DOE states that this facility has RCRA interim status. The name, building number, and design capacity for this container storage facility is listed in Table 3–3. The total design capacity of this facility is 78m^3.

TABLE 3–1.—BAPL CBC—APPLICABLE LOW LEVEL MIXED WASTE

Waste stream name	Annual generation rate (m^3/yr)	EPA waste codes	Treatment technology
Treatability Group No. 12: LLW Radioactive Lead Solids:			
Lead Seals From Cast Iron Pipes	0.05	D008	Lead decontamination and recycle/macroencapsulation.
Subtotal	0.05		
Total (All Treatability Groups)	0.05		

TABLE 3–2.—BAPL CBC—APPLICABLE LOW LEVEL MIXED WASTE NO LONGER GENERATED

Waste stream name	EPA waste codes	Inventory as of May 8, 1992	Treatment technology
Treatability Group No. 4: LLW TC Metal Nonignitable Organic Liquid:			
Inactive Waste Isolation Pit Oil	D009, D010	0.100	Incineration followed by stabilization.
Sump #6 Oil	D008, D009, D010	1.800	
East Barrier Door Well Oil	D006, D009, D001	0.400	
Subtotal		2.300	
Treatability Group No. 6: LLW TC Metal Nonwastewaters:			
Lead Base Paint Chips	D007, D008	0.050	Stabilization.
Subtotal		0.050	

TABLE 3–2.—BAPL CBC—APPLICABLE LOW LEVEL MIXED WASTE NO LONGER GENERATED—Continued

Waste stream name	EPA waste codes	Inventory as of May 8, 1992	Treatment technology
Treatability Group No. 12: LLW Radioactive Lead Solids:			
Lead Floor Anchors	D008	0.014	Lead decontamination and recycle/macroencapsulation.
Lead Sprinkler Fuses	D008	0.001	
Misc. Lead Bearing MEL Waste	D008	0.100	
Pipe Joint Fittings With Lead Inserts	D008	0.210	
Transfer and Shipping Casks	D008	2.700	
X-ray Cell Shielding	D008	0.060	
Subtotal		3.085	
Total (All Treatability Groups)		5.435	

TABLE 3–3—BAPL MIXED WASTE CONTAINER STORAGE FACILITIES

Facility name	Building No.	Design capacity (m^3)
Mixed Waste Storage Facility	None	78.00

In the application, DOE has provided information on the container storage capacity needs for CBC-applicable and non-CBC-applicable mixed waste. This information includes the annual generation rate, 1990 year-end inventory, and projected storage inventory as of May 8, 1992, for each mixed waste. In addition, the application provides estimates of the annual generation rates during the course of the extension period (May 8, 1992 to May 8, 1993) and the anticipated extension renewal period (May 8, 1993 to May 8, 1994).

In its evaluation of the required storage capacity, DOE included both CBC-applicable and non-CBC-applicable mixed waste. Non-CBC-applicable mixed wastes are factored into the DOE capacity analysis since they will be competing with CBC-applicable mixed wastes for available storage capacity. Against a total storage capacity of 78 m^3, DOE stated the mixed waste inventories to be on May 8, 1992, 9.9 m^3; on May 8, 1993, 10.8 m^3; and on May 8, 1994, 11.7 m^3. DOE's evaluation shows that BAPL will have sufficient container storage capacity for the 11 CBC-applicable low level mixed wastes during the course of the extension period (May 8, 1992 to May 8, 1993) and the anticipated extension renewal period (May 8, 1993 to May 8, 1994). Based on the above information, EPA believes that DOE has met the requirements of Demonstration 40 CFR 268.5(a)(6) for BAPL.

4. Brookhaven National Laboratory (BNL); Upton, New York

The Brookhaven National Laboratory (BNL) is a multi-program research and development laboratory located in central Suffolk County of Long Island about 60 miles east of New York City. The major functions of BNL include the design, construction, and operation of large research facilities, such as particle accelerators, nuclear reactors, and synchrotron storage rings, to carry out research in high energy and nuclear physics; research in material, chemical, and biological sciences; and research in energy-related life and environmental sciences. BNL is seeking an extension to the effective date for a single CBC-applicable low level mixed waste stream that is generated and stored at BNL as shown in Table 4–1.

a. Waste Stream and Treatment Information. BNL currently generates one CBC-applicable low level mixed waste having a generation rate of 3.00 m^3/yr; BNL does not generate any CBC-applicable high level or transuranic mixed wastes. As shown in Table 4–1, the one CBC-applicable low level mixed waste falls into one treatability group which in turn corresponds to one treatment technology.

b. Demonstration 40 CFR 268.5(a)(6). BNL has three storage facilities that will be able to accept containerized mixed waste. DOE states that these facilities have RCRA interim status. The name, building number, and design capacity for each container storage facility are listed in Table 4–2. The total design capacity of these facilities is 81 m^3.

TABLE 4–1.—BNL CBC—APPLICABLE LOW LEVEL MIXED WASTE

Waste stream name	Annual generation rate (m^3/yr)	EPA waste codes	Treatment technology
Treatability Group No. 1: LLW Ignitable Liquids—TOC > 10%:			
Scintillation Fluid	3.00	D001	Incineration (followed by stabilization if necessary).
Subtotal	3.00		
Total (all treatability groups)	3.00		

TABLE 4–2.—BNL MIXED WASTE CONTAINER STORAGE FACILITIES

Facility name	Building No.	Design capacity (m^3)
Conex Containers	None	5.25
Drum Storage Facility	None	66.62
Hazardous Waste Management Facility	448	9.07
Total		81.94

In the application, DOE has provided information on the container storage capacity needs for CBC-applicable and non-CBC-applicable mixed wastes. This information includes the annual generation rate, 1990 year-end inventory, and projected storage inventory as of May 8, 1992, for each mixed waste. In addition, the application provides estimates of the annual generation rates during the course of the extension period (May 8, 1992 to May 8, 1993) and the anticipated extension renewal period (May 8, 1993 to May 8, 1994).

In its evaluation of the required storage capacity, DOE included CBC-applicable and non-CBC-applicable mixed wastes. Non-CBC-applicable mixed wastes are factored into the DOE capacity analysis since they will be competing with CBC-applicable mixed wastes for available storage capacity. Against a total storage capacity of 81 m^3, DOE stated the mixed waste inventories to be on May 8, 1992, 27.2 m^3; on May 8, 1993, 35.3 m^3; and on May 8, 1994, 43.5 m^3. DOE's evaluation shows that BNL will have sufficient container storage capacity for the one CBC-applicable low level mixed waste during the course of the extension period (May 8, 1992 to May 8, 1993) and the anticipated extension renewal period (May 3, 1993 to May 8, 1994). Based on the above information, EPA believes that DOE has met the requirements of Demonstration 40 CFR 268.5(a)(6) for BNL.

5. Colonie Interim Storage Site (CISS); Colonie, New York

The Colonie Interim Storage Site (CISS) is situated on 11.2 acres occupied by the former National Lead Industries property and consists of buildings used by National Lead to manufacture a variety of products from depleted uranium. The property was transferred to the DOE in 1984 for remediation under DOE's Formerly Used Sites Remedial Action Program (FUSRAP). CISS is currently being used as an interim storage facility for radioactively contaminated soil removed from affected vicinity properties and RCRA hazardous and mixed wastes resulting from past on-site operations. CISS is seeking extensions to the effective date for 23 no longer generated CBC-applicable low level mixed waste streams that are stored at CISS as shown in Table 5–1.

a. Waste stream and treatment information. CISS currently manages 23 CBC-applicable low level mixed wastes which are classified as CBC-applicable even though DOE projects they will not be generated after May 8, 1992. The reason for including these mixed wastes is that DOE believes they may need to be managed in a manner that constitutes removal from storage during the extension period and therefore become subject to the LDR storage prohibition. CISS does not currently manage any high level or transuranic mixed wastes. As shown in Table 5–1, the 23 CBC-applicable low level mixed wastes fall into five treatability groups which in turn correspond to three treatment technologies. Treatability groups, waste codes, existing inventories, and treatment technologies are shown in Table 5–1.

b. Demonstration 40 CFR 268.5(a)(6). CISS has one storage facility that will be able to accept containerized mixed wastes. DOE states that it has RCRA interim status. The name, building number, and design capacity for the container storage facility is listed in Table 5–2. The total design capacity of this facility is 55 m^3.

TABLE 5–1.—CISS CBC—APPLICABLE LOW LEVEL MIXED WASTE NO LONGER GENERATED

Waste stream name	EPA waste codes	Inventory as of May 8, 1992	Treatment technology
Treatability Group No. 1: LLU Ignitable Liquids—TOC>10%:			
Sump Waste (D001)	D001	0.830	Incineration (followed by stabilization if necessary).
Waste Oil (D001)	D001	0.210	
Waste Oil (D001, EP TOX)	D001, D006, D008, D009	0.210	
Liquid Waste—Ignitable D001, D039 #350	D001, D039	0.210	
Liquid Waste—Ignitable D001, D023 #510	D001, D023	0.150	
Subtotal		1.610	
Treatability Group No. 4: LLW TC Metal Nonignitable Organic Liquid:			
Waste Oil (D002)	D002	0.420	Incineration followed by stabilization.
Waste Oil (D006)	D006	0.420	
Waste Oil (D008)	D008	0.210	
Waste Oil (D011)	D011	0.210	
Subtotal		1.260	
Treatability Group No. 8: LLW TC Metal Nonwastewaters:			
Acidic Waste (D002, TCLP)	D002	0.210	Stabilization.
Lab Waste	D006, D010	0.210	
Sump Waste—Liquid	D008	0.210	
Sump Waste—Solid	D008	0.210	
Unknown Liquid (D008)	D008	0.210	
Unknown Liquid (D009)	D009	0.210	
Unknown Sludge	D002, D006	0.020	
D007, D040 #445	D007, D040	0.020	

TABLE 5–1.—CISS CBC—APPLICABLE LOW LEVEL MIXED WASTE NO LONGER GENERATED—Continued

Waste stream name	EPA waste codes	Inventory as of May 8, 1992	Treatment technology
Subtotal		1.300	
Treatability Group No. 9: LLW F006, F007, F008, F009 Nonwastewater:			
Electroplating Waste (F006)	F006	2.080	Stabilization.
Electroplating Waste (F006, F008)	F006, F008	7.060	
Electroplating Waste (F006, F009)	F006, F009	0.620	
Electroplating Waste (F007)	F007	1.460	
Electroplating Waste (F009)	F009	5.830	
Subtotal		17.050	
Treatability Group No. 13: LLW TC Metal Inorganic Solid Debris:			
Cadmium Balls/Rack	D006	0.420	Inorganic Debris treatment.
Subtotal		0.420	
Total (all treatability groups)		21.640	

TABLES 5–2.—CISS MIXED WASTE CONTAINER STORAGE FACILITIES

Facility name	Building No.	Design capacity (m^3)
CISS Building	000	55.00
Total		55.00

In the application, DOE has provided information on the container storage capacity need for CBC-applicable and non-CBC-applicable mixed wastes. This inforamtion includes the 1990 year-end inventory and projected storage inventory as of May 8, 1992, for each mixed waste. As shown in the application, no further generation of CBC-applicable or non-CBC-applicable mixed wastes is projected.

Non-CBC-applicable mixed wastes are factored into the DOE capacity analysis since they will be competing with CBC-applicable mixed wastes for available storage capacity. Against a total storage capacity of 55 m^3, DOE stated the mixed waste inventories to be on May 8, 1992, 44 m^3; on May 8, 1993, 44 m^3; and on May 8, 1994, 44 m^3. DOE's evaluation shows that CISS will have sufficient container storage capacity for the 23 CBC-applicable low level mixed wastes during the course of the extension period (May 8, 1992 to May 8, 1993) and the anticipated extension renewal period (May 8, 1993 to May 8, 1994). Based on the above information, EPA believes that DOE has met the requirements of Demonstration 40 CFR 268.5(a)(6) for CISS.

6. Energy Technology and Engineering Center (ETEC); Canoga Park, California

The Energy Technology and Engineering Center (ETEC) is an engineering development complex operated for DOE by the Rocketdyne Division of Rockwell International Corporation. ETEC is located within the Santa Susana Field Laboratory site in southeastern Ventura County, California. The primary mission of ETEC is to provide engineering, testing, and development of components related to liquid metals technology and to conduct applied engineering development of emerging energy technologies. ETEC is seeking extensions to the effective date for three CBC-applicable low level mixed wastes and one CBC-applicable transuranic mixed waste generated and stored at ETEC as shown in Tables 6–1, 6–2, and 6–3.

a. Waste stream and treatment information. ETEC currently generates both CBC-applicable low level mixed wastes and transuranic mixed wastes. ETEC does not currently generate any CBC-applicable high level mixed wastes. One CBC-applicable low level mixed waste generated at ETEC is generated infrequently in minute quantities. Two other low level mixed wastes are classified as CBC-applicable even though DOE projects they will not be generated after May 8, 1992. The reason for including these mixed wastes is that DOE believes they may need to be managed in a manner that constitutes removal from storage during the extension period and therefore become subject to the LDR storage prohibition. These mixed wastes are referred to as no longer generated mixed wastes.

The three CBC-applicable low level mixed wastes fall into two treatability groups which in turn correspond to two treatment technologies. Treatability groups, generation rates, and waste codes are shown in Table 6–1 for low level mixed wastes that will be generated after May 8, 1992. Treatability groups, waste codes, and existing inventories for the no longer generated mixed wastes are shown in Table 6–2.

The CBC-applicable transuranic mixed waste generated at ETEC is generated at a rate of 0.02 m^3/yr as shown in Table 6–3. While DOE Plans to store both low level and transuranic mixed wastes at ETEC during the extension period, DOE's long term management strategy for transuranic mixed waste is different than for low level mixed waste. As discussed in section II.A.2.b.(21), DOE Plans to store and manage all transuranic mixed waste at its facilities until such time as the WIPP is able to accept the wastes.

b. Demonstration 40 CFR 268.5(a)(6). ETEC has two storage facilities that will be able to accept containerized mixed waste. DOE states that these facilities have RCRA interim status. The name, building number, and design capacity for each container storage facility are listed in Table 6–4. The total design capacity of these facilities is 353 m^3.

In the application, DOE has provided information on the container storage capacity needs for CBC-applicable and non-CBC-applicable mixed wastes. This information includes the annual generation rate, 1990 year-end inventory, and projected storage inventory as of May 8, 1992, for each mixed waste. In addition, the application provides estimates of the annual generation rates during the course of the extension period (May 8, 1992 to May 8, 1993) and the anticipated extension renewal period (May 8, 1993 to May 8, 1994).

In its evaluation of the required storage capacity, DOE included both

CBC-applicable and non-CBC-applicable mixed wastes. Non-CBC-applicable mixed wastes are factored into the DOE capacity analysis since they will be competing with CBC-applicable mixed wastes for available storage capacity. Against a total storage capacity of 353 m^3, DOE stated the mixed waste inventories to be on May 8, 1992, 3.7 m^3; on May 8, 1993, 3.8 m^3; and on May 8, 1994, 3.9 m^3. DOE's evaluation shows that ETEC will have sufficient container storage capacity for the three CBC-applicable low level mixed wastes and one CBC-applicable transuranic mixed waste during the course of the extension period (May 8, 1992 to May 8, 1993) and the anticipated extension renewal period (May 8, 1993 to May 8, 1994). Based on the above information, EPA believes that DOE has met the requirements of Demonstration 40 CFR 268.5(a)(6) for ETEC.

TABLE 6–1.—ETEC CBC—APPLICABLE LOW LEVEL MIXED WASTE

Waste stream name	Annual generation rate (m^3/yr)	EPA waste codes	Treatment technology
Treatability Group No. 12: LLW Radioactive Lead Solids:			
LLW Lead	0.00	D008	Lead decontamination and recycle/macroencapsulation.
Subtotal	0.00		
Total (all treatability groups)	0.00		

Annual generation rate of 0.00 indicates minute quantities of this waste stream are generated on an infrequent basis.

TABLE 6–2.—ETEC CBC—APPLICABLE LOW LEVEL MIXED WASTE NO LONGER GENERATED

Waste stream name	EPA waste codes	Inventory as of May 8, 1992	Treatment technology
Treatability Group No. 11: LLW Ignitable and/or Water Reactives:			
Sodium	D003	0.010	Oxidation (thermal or water reaction).
Subtotal		0.010	
Treatability Group No. 12: LLW Radioactive Lead Solids:			
Lead and Asbestos (LLW)	D008	0.019	Lead decontamination and recycle/macroencapsulation.
Subtotal		0.019	
Total (all treatability groups)		0.029	

TABLE 6–3.—ETEC CBC—APPLICABLE TRANSURANIC MIXED WASTE

Waste stream name	Annual generation rate (m^3/yr)	EPA waste codes
Lead—TRU	0.02	D008
Subtotal	0.02	
Total	0.02	

TABLE 6–4.—ETEC MIXED WASTE CONTAINER STORAGE FACILITIES

Facility name	Building No.	Design capacity (m^3)
Radioactive Material Disposal Facility (RMDF)	T075	55.74
Radioactive Material Disposal Facility (RMDF)	T621	297.29
Total		353.03

7. Feed Materials Production Center (FMPC); Fernald, Ohio

The Feed Materials Production Center (FMPC), located near Fernald, Ohio, was a large scale, integrated production facility that supplied uranium metal for use in the fabrication of fuel cores and target elements for nuclear reactors operated by the U.S. Department of Energy (DOE). The site was temporarily closed in July 1989; decisions to permanently close the site were subsequently taken. Currently, the site is undergoing extensive cleanup operations that, according to DOE, are expected to take 20 years to complete. FMPC is seeking extensions to the effective date for 48 CBC-applicable low level mixed wastes that are generated and stored at FMPC as shown in Tables 7–1 and 7–2.

a. *Waste stream and treatment information.* FMPC currently generates 16 CBC-applicable low level mixed wastes which have a combined generation rate of 586 m^3/yr. The other 32 low level mixed wastes are classified as CBC-applicable even though DOE projects they will not be generated after May 8, 1992. The reason for including these mixed wastes is that DOE believes they may need to be managed in a manner that constitutes removal from storage during the extension period and therefore become subject to the LDR storage prohibition. These mixed wastes are referred to as no longer generated mixed wastes; FMPC does not generate

any CBC-applicable high level mixed wastes or transuranic mixed wastes.

The 48 CBC-applicable low level mixed wastes fall into eight treatability groups which in turn correspond to four treatment technologies. Treatability groups, generation rates, and waste codes are shown in Table 7–1 for low level mixed wastes that will be generated after May 8, 1992. Treatability groups, waste codes, and existing inventories for the no longer generated mixed wastes are shown in Table 7–2.

b. *Demonstration 40 CFR 268.5(a)(6).* FMPC has seven storage facilities that will be able to accept containerized mixed wastes. DOE states that these facilities have RCRA interim status and that they have a total design capacity of 12,085 m^3 as shown in Table 7–3.

In the application, DOE has provided information on the container storage capacity needs for CBC-applicable and non-CBC-applicable mixed wastes. This information includes the annual generation rate, 1990 year-end inventory, and projected storage inventory as of May 8, 1992, for each mixed waste. In addition, the application provides estimates of the annual generation rates during the course of the extension period (May 8, 1992 to May 8, 1993) and the anticipated extension renewal period (May 8, 1993 to May 8, 1994).

In its evaluation of the required storage capacity, DOE included both CBC-applicable and non-CBC-applicable mixed wastes.

TABLE 7–1.—FMPC CBC—APPLICABLE LOW LEVEL MIXED WASTE

Waste stream name	Annual generation rate (m^3/yr)	EPA waste codes	Treatment technology
Treatability Group No. 1: LLW Ignitable Liquids—TOC > 10%:			
Spent Enamel	1.00	D001	Incineration (followed by stabilization if necessary).
Aerosol Paint Cans, Non-Empty	0.00	D001	
Subtotal	1.00		
Treatability Group No. 8: LLW TC Metal Nonwastewaters:			
Furnace Salt (D004, D006, D008, D010)	346.00	D004, D006, D008, D010	Stabilization.
Wet Sump Cake (D004, D006, D008)	16.00	D004, D006, D008	
Barium Chloride Salt	53.00	D005	
Dust Collector Residues (D008)	1.00	D008	
Scrap U308 II	16.00	D005, D010	
Sand Blast Paint Residues	112.00	D008	
Furnace Salt I	9.00	D005	
Drum Decontamination Residues	5.00	D006	
Scrap U308 (Dust Collector)	16.00	D005, D010	
Subtotal	574.00		
Treatability Group No. 13: LLW TC Metal Inorganic Solids Debris:			
Batteries, Flashlight/Beepers	0.00	D002, D006, D009	Inorganic debris treatment.
Mercury Spill Residue	2.00	D009, U151	
Mercury-Contaminated Material	1.00	D009	
Subtotal	3.00		
Treatability Group No. 6: LLW TC Metal Organic Solid Debris:			
Oily Hilco Filter Cake and Merco Dry	5.00	D001	Incineration followed by stabilization.
Subtotal	5.00		
Treatability Group No. 4: LLW TC Metal Nonignitable Organic Liquid:			
Oily Sludge (D005, D008)	3.00	D005, D008	Incineration followed by stabilization.
Subtotal	3.00		
Total (All Treatability Groups)	586.00		

Annual generation rate of 0.00 indicates minute quantities of this waste stream are generated on an infrequent basis.

TABLE 7–2.—FMPC CBC—APPLICABLE LOW LEVEL MIXED WASTE NO LONGER GENERATED

Waste stream name	EPA waste codes	Inventory as of May 8, 1992	Treatment technology
Treatability Group No. 1: LLW Ignitable Liquids—TOC > 10%:			
Acetonitrile in Water	D001	0.006	Incineration (followed by stabilization if necessary).
Barium Sulfate Filter Cake	D001,D005, D007	9.000	
Gasoline	D001,D018	0.267	
Leaded Gasoline	D001,D008, D018	3.700	
Paint Thinner (D001)	D001	0.400	
Waste Benzene	D001, D018	0.204	
Water/Gas Mixture (D001, D018, D008)	D001, D008, D018	3.700	
Water/Gas Mixture (D001, D018)	D001, D018	7.270	
Subtotal		24.637	
Treatability Group No. 2: LLW P&U Listed Organic Nonwastewaters:			
Spill Tetrachloroethylene	U210	0.310	Incineration.
Subtotal		0.310	

TABLE 7–2.—FMPC CBC—APPLICABLE LOW LEVEL MIXED WASTE NO LONGER GENERATED—Continued

Waste stream name	EPA waste codes	Inventory as of May 8, 1992	Treatment technology
Treatability Group No. 4: LLW TC Metal Nonignitable Organic Liquid:			
Used Oil (D005,D008)	D005, D008	2.290	Incineration followed by stabilization.
Water/Gas Mixture (D008, D018)	D008, D018	2.250	
Subtotal		4.540	
Treatability Group No. 6: LLW TC Metal Organic Solid Debris:			
Dust Collector Bags	D006	1.500	Incineration followed by stabilization.
Pressure Treated Wood	D008	0.440	
Scrap Salts	D006	521.600	
TBP/Kerosene Semisolid (D001,2,7)	D001, D002, D007	2.900	
Unfired Reduction Charges	D001	0.025	
Subtotal		526.465	
Treatability Group No. 8: LLW TC Metal Nonwastewaters:			
Barium Chloride Chrome Residue	D005, D007	16.000	Stabilization.
Contaminated Alumina-Soda Lime	D005	11.000	
Dust Collector Residues (D006)	D006	7.530	
Impure Thorium Nitrate	D007, D008	4.000	
Incinerator Cinders	D006	2.000	
Lab Packed Water and Samples	D007	0.070	
Samples, Non-Metallic, Misc.—Liquid	D005	0.350	
Samples, Non-Metallic, Misc.—Solids	D005	0.065	
Sump Cake with Free Liquids	D005, D007	12.000	
Tank 8 Cleanout Residues	D007	8.000	
Thorium Nitrate Solution	D007, D008	4.000	
U308 for Oxidation	D007	9.130	
U-Contaminated Water	D005	2.900	
Wet Sump Cake (D002, D006, D010)	D002, D006, D010	940.000	
Subtotal		1017.045	
Treatability Group No. 14: LLW TC Metal Soil:			
Contaminated Soil and Rocks	D006, D007	3,300	Stabilization.
Subtotal		3,300	
Treatability Group No. 16: LLW TC Metal Wastewaters:			
Used Developing/Fixing Solution	D011	0.360	Ion exchange.
Subtotal		0.360	
Total (all treatability groups)		1575.387	

TABLE 7–3.—FMPC MIXED WASTE CONTAINER STORAGE FACILITIES

Facility name	Building No.	Design capacity (m^3)
Total (7 units)	NA	12,085.00

Non-CBC-applicable mixed wastes are factored into the DOE capacity analysis since they will be competing with CBC-applicable mixed wastes for available storage capacity. Against a total storage capacity of 12,085 m^3, DOE stated the mixed waste inventories to be on May 8, 1992, 3,459 m^3; on May 8, 1993, 4,151 m^3; and on May 8, 1994, 4,843 m^3. DOE's evaluation shows that FMPC will have sufficient container storage capacity for the 48 CBC-applicable low level mixed wastes during the course of the extension period (May 8, 1992 to May 8, 1993) and the anticipated extension renewal period (May 8, 1993 to May 8, 1994). Based on the above information, EPA beieves that DOE has met the requirements of Demonstration 40 CFR 268.5(a)(6) for FMPC.

8. FERMI National Accelerator Laboratory (FNAL); Batavia, Illinois

The FERMI National Accelerator Laboratory (FNAL) occupies a 10.6 square mile tract located west of Chicago. It is operated by the Universities Research Association, Inc. for the U.S. Department of Energy (DOE) and performs fundamental research in high-energy physics utilizing a series of proton accelerators. FNAL is seeking extensions to the effective date for three CBC-applicable low level mixed wastes streams that are generated and stored at FNAL as shown in Tabale 8–1.

a. *Waste stream and treatment information.* FNAL currently generates three CBC-applicable low level mixed wastes having a combined generation rate of 0.084 m^3/yr; FNAL does not generate any CBC-applicable high level mixed wastes or transuranic mixed wastes. The three CBC-applicable low level mixed wastes fall into two treatability groups which in turn correspond to three treatment technologies. Treatability groups, generation rates, and waste codes are shown in Table 8–1 for low level mixed waste that will be generated after May 8, 1992.

TABLE 8-1.—FNAL CBC-APPLICABLE LOW LEVEL MIXED WASTE

Waste stream name	Annual generation rate (m^3/yr)	EPA waste codes	Treatment technology
Treatability Group No. 1: LLW Ignitable Liquid:			
Spent Ethyl Alcohol	0.080	D001	Incineration (followed by stabilization if necessary).
Subtotal	0.080		
Treatability Group No. 12: LLW TC Metal Inorganic Solid Debris:			
Oxygen Sensors	*0.000	D008	Inorganic debris treatment.
Lead Coated Stainless Steel Rings	0.004	D008	
Subtotal	0.004		
Total (all treatability groups)	0.084		

* The generation rate of oxygen sensor is estimated to be five ounces/year. The quantity in storage at the end of 1990 was one ounce.

TABLE 8-2.—FNAL MIXED WASTE CONTAINER STORAGE FACILITIES

Facility name	Building No.	Design capacity (m^3)
Hazardous Waste Storage Facility	WS-1	27.630

b. *Demonstration 40 CFR 268.5(a)(6).* FNAL has one storage facility that will be able to accept containerized mixed wastes. DOE has stated that the facility has a RCRA Part B permit. The name, building number, and design capacity for the container storage facility is listed in Table 8-2. The total design capacity of this facility is 27 m^3.

In the application, DOE has provided information on the container storage capacity needs for CBC-applicable and non-CBC-applicable mixed wastes. This information includes the annual generation rate, 1990 year-end inventory, and projected storage inventory as of May 8, 1992, for each mixed waste. In addition, the application provides estimates of the annual generation rates during the course of the extension period (May 8, 1992 to May 8, 1993) and the anticipated extension renewal period (May 8, 1993 to May 8, 1994).

In its evaluation of the required storage capacity, DOE included both CBC-applicable and non-CBC-applicable mixed wastes. Non-CBC-applicable mixed wastes are factored into the DOE capacity analysis since they will be competing with CBC-applicable mixed wastes for available storage capacity. Against a total storage capacity of 27 m^3, DOE stated the mixed waste inventories to be on May 8, 1992, 0.2 m^3; on May 8, 1993, 0.3 m^3; and on May 8, 1994, 0.4 m^3. DOE's evaluation shows that FNAL will have sufficient container storage capacity for the three CBC-applicable low level mixed wastes during the course of the extension period (May 8, 1992 to May 8, 1993) and the anticipated extension renewal period (May 8, 1993 to May 8, 1994). Based on the above information, EPA believes that DOE has met the requirements of Demonstration 40 CFR 268.5(a)(6) for FNAL.

9. Hanford Site (Hanford); Richland, Washington

The Hanford facilities on the Hanford Site, located near Richland, Washington, were originally dedicated to the production of plutonium for national defense and management of wastes generated by chemical processing operations. Nine reactors and related facilities used for plutonium production are in the 100 Area. Chemical processing and radioactive, hazardous, and mixed wastes operations are centralized in the 200 Area. Laboratory research and development activities are, and fuel fabrication was, centralized in the 300 Area. The 400 Area is grouped with the 300 Area and is the location of the Fast Flux Treatment Facility (FFTF), where experiments in advanced reactor design are being carried out. Material receipt, warehousing, and vehicle maintenance activities are centralized in the 1100 Area. Hanford is seeking extensions to the effective date for 25 CBC-applicable low level mixed wastes and 13 CBC-applicable transuranic mixed waste streams that are generated and stored at Hanford as shown in Tables 9-1, 9-2, and 9-3.

a. *Waste stream and treatment information.* Hanford currently generates both CBC-applicable low level mixed wastes and transuranic mixed wastes; Hanford does not generate any CBC-applicable high level mixed wastes. Twenty four low level mixed wastes generated at Hanford have a combined generation rate of 57.55 m^3/yr. The other low level mixed waste is classified as CBC-applicable even though DOE projects it will not be generated after May 8, 1992. The reason for including this mixed waste is that DOE believes it may need to be managed in a manner that constitutes removal from storage during the extension period and therefore becomes subject to the LDR storage prohibition. This mixed waste is referred to as no longer generated mixed waste.

The 25 CBC-applicable low level mixed wastes fall into nine treatability groups which in turn correspond to five treatment technologies. Treatability groups, generation rates, and waste codes are shown in Table 9-1 for the low level mixed wastes that will be generated after May 8, 1992. Treatability groups, waste codes, and existing inventories for the no longer generated mixed waste are shown in Table 9-2.

The 13 CBC-applicable transuranic mixed wastes generated at Hanford are listed in Table 9-3 and have a combined generation rate of 42.32 m^3/yr. While DOE plans to store both low level and transuranic mixed wastes at Hanford during the extension period, DOE's long-term management strategy for transuranic mixed wastes is different than for low level mixed wastes. As discussed in section II.A.2.b.(2)(), DOE plans to store and manage all transuranic mixed wastes at Hanford, until such time as the WIPP is able to accept the wastes.

b. *Demonstration 40 CFR 268.5(a)(6).* Hanford has 11 storage facilities that will be able to accept containerized mixed wastes. DOE states that these facilities have RCRA interim status. The

name, building number, and design capacity for each container storage facility are listed in Table 9–4. The total design capacity of these facilities is 24,837 m^3.

TABLE 9–1.—HANFORD CBC—APPLICABLE LOW LEVEL MIXED WASTE

Waste stream name	Annual generation rate (m^3/yr)	EPA waste codes	Treatment technology
Treatability Group No. 1: LLW Ignitable Liquids—TOC > 10%:			
Ignitable Liquids—TOC > 10%	0.120	D001	Incineration (followed by stabilization if necessary).
Subtotal	0.120		
Treatability Group No. 8: LLW TC Metal Nonwastewaters:			
TC Metal Sludges/Dry Particulate	0.230	D001, D002, D007, D011	Stabilization.
TC Metal Sludges/Dry Particulate (As)	0.070	D002, D004, D005, D010	
TC Metal Sludges/Dry Particulate (Hg)	4.430	D001, D002, D005, D006, D007, D008, D009, D010, D011	
Mercury Sludges/Dry Part. (Hg > 260mg/kg)	0.010	D002, D009	
Non-TC Metal/Solvent Sludges/Dry Part.	1.990	D001, D002	
Subtotal	6.730		
Treatability Group No. 13: LLW TC Metal Inorganic Solid Debris:			
TC Metal Inorganic Solid Debris	2.670	D002, D007, D008	Inorganic Debris Treatment.
TC Metal Inorganic Solid Debris (Hg)	0.330	D002, D003, D006, D009	
TC Metal Inorg Glass Solid Debris (Hg)	1.170	D005, D006, D009	
Radioactive Glass Lead Solids	0.180	D008	
Purex Tunnels Silver Waste	0.010	D001, D011	
Non-TC Metal/Solvent Inorg Solid Debris	0.460	D001, D002	
Subtotal	5.020		
Treatability Group No. 6: LLW TC Metal Organic Solid Debris:			
TC Metal Organic Solid Debris	6.210	D001, D002, D005, D006, D007, D008, D010	Incineration followed by stabilization.
TC Metal Organic Solid Debris (Hg)	0.160	D009	
Non-TC Metal/Solvent Org Solid Debris	1.390	D001, D002, D003	
Subtotal	7.770		
Treatability Group No. 12: LLW Radioactive Lead Solids:			
Purex Canyon Lead Waste	0.060	D008	Lead Decontamination and recycle/ macroencapsulation.
Radioactive Lead Solids	33.130	D002, D003, D007, D008	
Lead Acid Batteries	0.180	D008	
Subtotal	33.390		
Treatability Group No. 5: LLW LDR Appendix IV Labpacks:			
Appendix IV Labpacks	0.240	D001, D002, D003	Incineration followed by stabilization if necessary.
Subtotal	0.240		
Treatability Group No. 5: LLW LDR Appendix V Labpacks:			
Appendix V Labpacks	1.140	D001	Incineration.
Subtotal	1.140		
Treatability Group No. 14: LLW TC Metal Soil:			
TC Metal Soil	0.090	D006, D007, D011	Stabilization
Non-TC Metal/Solvent Soil	0.090	D001	
Subtotal	0.180		
Treatability Group No. 11: LLW Water Reactives:			
Alkali Metal Waste (LSA)	0.210	D001, D003	Oxidation (thermal, water reaction).
Subtotal	0.210		
Treatability Group No. 7: LLW RMW PCB Solids 50 ppm < PCB < 500 ppm:			
TC Metal Inorganic Solid Debris (Hg, PCB)	2.750	D006, D009	Incineration (followed by stabilization if necessary).
Subtotal	2.750		
Total (all treatability groups)	57.550		

TABLE 9–2.—HANFORD CBC—APPLICABLE LOW LEVEL MIXED WASTE NO LONGER GENERATED

Waste stream name	EPA waste codes	Inventory as of May 8, 1992	Treatment technology
Treatability Group No. 8: LLW TC Metal Nonwastewaters:			
183–H Solar Basin Waste, Type 3	D001	666.600	Stabilization.

TABLE 9–2.—HANFORD CBC—APPLICABLE LOW LEVEL MIXED WASTE NO LONGER GENERATED—Continued

Waste stream name	EPA waste codes	Inventory as of May 8, 1992	Treatement technology
Subtotal		666.600	
Total (all treatability groups)		666.600	

TABLE 9–3.—HANFORD CBC—APPLICABLE TRANSURANIC MIXED WASTE

Waste stream name	Annual generation rate (m^3/yr)	EPA waste codes
TC Metal Inorganic Solid Debris, TRU	2.700	D006,D007,D008
TC Metal Inorganic Solid Debris, TRU (Hg)	2.280	D005,D006, D007, D008, D009
TC Metal Inorg Solid Debris, TRU (Hg, PCB)	18.910	D006, D008, D009
TC Metal Organic Solid Debris, TRU	7.740	D002, D007, D008
TC Metal Organic Solid Debris, TRU (Hg)	0.180	D005, D006, D007, D008, D009
TC Metal Org Solid Debris, TRU (Hg, PCB)	0.910	D006, D008, D009
NON-TC Met/Solvent ORG Solid Debris, TRU	1.270	D003
LEAD Acid Batteries, TRU	0.180	D002, D007, D008
LEAD Acid Batteries, TRU (Hg)	0.120	D002, D005, D006, D007, D008, D009
Radioactive Lead Solids, TRU	7.690	D001, D007, D008
Radioactive Lead Glass Solids, TRU	0.120	D008
Radioactive Lead Solids, TRU (Hg)	0.060	D006, D008, D009
Radioactive Lead Solids, TRU (LB)	0.160	D006, D008, P015
Subtotal	42.320	

TABLE 9–4.—HANFORD MIXED WASTE CONTAINER STORAGE FACILITIES

Facility name	Builidng number	Design capacity (m^3)
Central Waste Complex	None	22,710.00
Retrievable Storage Units	None	[a] 1,532.25
Trusaf	224–T	416.00
4843 Alkali Metal Storage Facility	4843	03.50
Purex Tunnel 1	218–E–15	[a]0.02
Purex Tunnel 2	218–E–14	[b]1.00
222–S Permitted Storage	222S/200W	12.50
305–B Storage Facility	305–B	20.00
B–Plant Container Storage	221–B	51.00
332 Storage Facility	332	6.80
304 Concretion Facility Storage Pad	304	4.16
Total		24,837.23

[a] Capacity. Facility will not be accepting any new mixed waste.
[b] Capacity. Facility will contain a very small (1.00m^3) amount by May 1994.

In the application, DOE has provided information on the container storage capacity needs for CBC-applicable and non-CBC-applicable mixed wastes. This information includes the annual generation rate, 1990 year-end inventory, and projected storage inventory as of May 8, 1992, for each mixed waste. In addition, the application provides estimates of the annual generation rates during the course of the extension period (May 8, 1992 to May 8, 1993) and the anticipated extension renewal period (May 8, 1993 to May 8, 1994).

In its evaluation of the required storage capacity, DOE included CBC-applicable and non-CBC-applicable mixed wastes. Non-CBC-applicable mixed wastes are factored into the DOE capacity analysis since they will be competing with CBC-applicable mixed wastes for available storage capacity. Against a total storage capacity of 24,837 m^3, DOE stated the mixed waste inventories to be on May 8, 1992, 2,652 m^3; on May 8, 1993, 2,824 m^3; and on May 8, 1994, 2,996 m^3. DOE's evaluation shows that Hanford will have sufficient container storage capacity for the 25 CBC-applicable low level mixed wastes and 13 CBC-applicable transuranic mixed wastes during the course of the extension period (May 8, 1992 to May 8, 1993) and the anticipated extension renewal period (May 8, 1993 to May 8, 1994). Based on the above information, EPA believes that DOE has met the requirements of Demonstration 40 CFR 268.5(a)(6) for Hanford.

10. Idaho National Engineering Laboratory (INEL); Idaho Falls, Idaho

The Idaho National Engineering Laboratory (INEL) was established in 1949 as a center where nuclear power reactors and support facilities could be built, tested, and operated. INEL covers 890 square miles and is 22 miles west of Idaho Falls. Fifty-two reactors have been built at INEL, of which 14 are still operable. The pressurized water reactor and boiling water reactor, as well as nuclear propulsion plants for the U.S. Navy, have been prototyped at INEL. Current major programs at INEL include water reactor safety, materials and fuels testing, nuclear fuel reprocessing, high level mixed wastes calcining, breeder and naval reactor operation and research, management of hazardous low level and transuranic mixed wastes, and

manufacturing tank armor. RCRA-regulated wastes are generated, treated, and stored at the site.

INEL is seeking extensions to the effective date for 41 CBC-applicable low level mixed wastes, four CBC-applicable transuranic mixed wastes, and two CBC-applicable high level mixed wastes as shown in Tables 10–1 through 10–6.

a. *Waste stream and treatment information.* INEL currently generates 20 CBC-applicable low level mixed wastes having a combined generating rate of 57.08 m^3. The other 20 low level mixed wastes are classified as CBC-applicable even though DOE projects they will not be generated after May 8, 1992. The reason for including these mixed wastes is that DOE believes they may need to be managed in a manner that constitutes removal from storage during the extension period and therefore become subject to the LDR storage prohibition. These mixed wastes are referred to as no longer generated mixed wastes.

The 40 CBC-applicable low level mixed wastes fall into nine treatability groups which in turn correspond to six treatment technologies. Treatability groups, generation rates, and waste codes are shown in Tables 10–1 and 10–3 for low level mixed wastes being generated. Treatability groups, waste codes, and existing inventories for no longer generated mixed wastes are shown in Table 10–2.

In addition. to the 40 low level mixed wastes mentioned above, INEL generates the only low level mixed waste, a P & U Listed RAD Contaminated Condensate mixed waste, which will be disposed of via a surface impoundment. This mixed waste is in Treatability Group 18, and the corresponding technology-based treatment standard for this mixed waste is treatment by either incineration, wet air, or chemical oxidation followed by carbon adsorption. DOE's extension request applies only to the portion of the P & U Listed RAD Contaminated Condensate mixed waste generated after the May 8, 1992, LDR effective date.

DOE currently is disposing of this mixed waste without accumulating it and does not currently have any of this mixed waste in storage. However, after September 23, 1992, DOE states it plans to cease the disposal of this mixed waste in the surface impoundment and place it in storage with the high level mixed wastes. Storage requirements are discussed below in section b. EPA has evaluated the surface impoundment under Demonstration 40 CFR 268.5(a)(7) in section C.7.

The two CBC-applicable transuranic mixed wastes generated and the two no longer generated transuranic mixed wastes at INEL are listed in Tables 10–4 and 10–5. The combined generation rate of all CBC-applicable transuranic mixed wastes at INEL is 11.28 m^3. While DOE plans to store both low level and transuranic mixed wastes at INEL during the extension period, DOE's long-term management strategy for transuranic mixed wastes is different than for low level mixed wastes. As discussed in section II.A.2.b.(21), DOE plans to store and manage all transuranic mixed wastes at INEL, until such time as the WIPP is able to accept the wastes.

The two CBC-applicable high level mixed wastes generated at INEL are listed in Table 10–6. Each of the two CBC-applicable high level mixed wastes constitutes its own treatability group. The first mixed waste, high level liquid waste, is generated from the reprocessing of spent Navy nuclear fuel. Liquid high level mixed waste generated directly from fuel reprocessing exhibits the characteristics of corrosivity and toxicity due to TC metals. This acidic liquid high level mixed waste is accumulated in storage tanks for treatment at the INEL high level mixed waste calciner. The calciner converts the acidic liquid to a solidified form which is placed in interim storage pending final treatment and disposal. The generation rate for this high level mixed waste is 2,500 m^3/yr. This stream exhibits both California List and Third Third characteristics. Treatment by calcination removes the California List characteristics, but the Third Third constituents, TC metals, remain in the treated waste. Treatment for the TC metals is not projected to be available by the May 8, 1992, LDR effective date.

The second high level mixed waste, high level waste calcine, is generated from the calcination of the high level liquid waste described above. This mixed waste exhibits the characteristic of toxicity due to metals and, therefore, is addressed in this application. The generation rate for this high level mixed waste is 465 m^3.

b. *Demonstration 40 CFR 268.5(a)(6).* INEL currently utilizes four different storage methods to manage the low level, transuranic, and high level mixed wastes: Containers, high-efficiency particulate air (HEPA) filter storage facilities, high level mixed waste tanks, and calcine bins. The storage capacities provided by these storage methods are discussed in greater detail below.

DOE has supplied information in its application showing that INEL has seven storage facilities that will be able to accept low level and transuranic containerized mixed wastes including containerized mixed waste from the Naval Reactor Facility. DOE states that these facilities have RCRA interim status. The name, building number, and design capacity for each container storage facility are listed in Table 10–7. The total design capacity of these facilities is 226,240 m^3.

In the application, DOE has provided information on the container storage capacity needs for CBC-applicable and non-CBC-applicable mixed wastes, respectively, at INEL. This information includes the annual generation rate, 1990 year-end inventory, and projected storage inventory as of May 8, 1992, for each mixed waste. In addition, the application provides estimates of the annual generation rates during the course of the extension period (May 8, 1992 to May 8, 1993) and the anticipated extension renewal period (May 8, 1993 to May 8, 1994). Non-CBC-applicable mixed wastes have been factored into the DOE capacity analysis since they will be competing with CBC-applicable mixed wastes for available container storage capacity.

Against a total storage capacity of 226,240 m^3, DOE stated the low level and three of the transuranic mixed waste inventories to be on May 8, 1992, 63,973 m^3; on May 8, 1993, 64,051 m^3; and May 8, 1994, 64,128 m^3. DOE's evaluation shows that INEL will have sufficient container storage capacity for 40 CBC-applicable low level and three transuranic mixed wastes during the course of the extension period and the anticipated extension renewal period.

One CBC-applicable transuranic mixed waste, HEPA filters, is managed in four specially designed, dedicated units for which DOE states it has RCRA interim status. The name, builidng number, and design capacity for each HEPA Filter storage facility are listed in Table 10–8. The total design capacity of these facilities is 167 m^3.

In the application, DOE has provided information on the generation rates and stored inventories of the CBC-applicable mixed wastes stored in the HEPA filter storage facility. DOE stated that it has 167 m^3 of storage for HEPA filters in comparison with inventories on May 8, 1992, 15.9 m^3; on May 8, 1993, 16.5 m^3; and on May 8, 1994, 17.2 m^3. No competition for storage capacity is involved at this facility since no other mixed wastes (CBC-applicable or non-CBC-applicable) will be stored in this facility. DOE's evaluation shows that INEL will have sufficient HEPA filter storage capacity for this CBC-applicable transuranic mixed waste stored during the course of the extension period (May 8, 1992 to May 8, 1993) and the

anticipated extension renewal period (May 8, 1993 to May 8, 1994).

One of the two CBC-applicable high level mixed wastes at INEL, the high level liquid waste, will be managed in a 19-unit high level mixed wastes tank storage facility. The identification number and design capacity for each high level mixed waste tank unit are presented in Table 10–9. The total design capacity of this facility is 13,368 m^3. In the application, DOE has provided information on the generation rates and stored inventories of the high level liquid waste.

In addition, as stated above, DOE plans to cease disposal of the P & U Listed RAD Contaminated Condensate mixed waste by September 23, 1992. DOE then plans to pretreat the stream to reduce its volume and place the concentrated waste in interim storage in the INEL high level tank facility. The concentrated waste will be further treated by calcination to remove the corrosive characteristic of the waste; DOE will then place the calcined waste in the calcine bin storage facility. The quantity of calcined waste to be placed into storage is not projected by DOE to increase as a result of this process. However, the available storage capacity in the INEL high level tank facility will be affected by the storage of the volume-reduced concentrated P & U Listed RAD Contaminated Condensate mixed waste.

For the high level liquid waste, DOE states that the storage capacity for the high level tanks is 13,368 m^3. Inventories are projected on May 8, 1992, to be 7,319 m^3; on May 8, 1993 to be 9,819 m^3; and on May 8, 1994 to be 12,618 m^3. DOE's evaluation shows that INEL will have sufficient high level mixed waste tank storage capacity for the CBC-applicable high level liquid mixed waste during the course of the extension period (May 8, 1992 to May 8, 1993) and the anticipated extension renewal period (May 8, 1993 to May 8, 1994).

The other of the two CBC-applicable high level mixed wastes at INEL, the high level calcine waste, will be managed in a seven-unit calcine bin storage facility. DOE states this facility has RCRA interim status. The identification number and design capacity for each calcine bin storage unit are presented in Table 10–10.

TABLE 10–1.—INEL CBC–APPLICABLE LOW LEVEL MIXED WASTE

Waste stream name	Annual generation rate (m^3/yr)	EPA waste codes	Treatment technology
Treatability Group No. 1: LLW Ignitable Liquids—TOC > 10%:			
Spent Stoddard Solvent	0.22	D001, D006, D007, D008	Incineration (followed by stabilization if necessary).
Subtotal	0.22		
Treatability Group No. 13: LLW TC Metal Inorganic Solid Debris:			
Laboratory Equipment and Debris	0.42	D004, D005, D006, D007, D008, D009, D0011	Inorganic Debris Treatment.
Contaminated Cadmium Sheeting	10.00	D008	
Subtotal	10.42		
Treatability Group No. 6: LLW TC Metal Organic Solid Debris:			
Cadmium and Chromium Contaminated Solids	0.28	D006, D007	Incineration followed by stabilization.
Cadmium Contaminated Solids	0.34	D006	
Chromium and Lead Contaminated Solids	0.08	D007, D008	
Cadmium, Mercury and Selenium Contaminated Solids	0.06	D006, D009, D010	
WERF HEPA Filters with Lead	0.90	D006,D008	
Mercury Contaminated Solids	1.40	D009	
Mercury Contaminated Solids Shielded with Lead	1.83	D008, D009	
Subtotal	4.89		
Treatability Group No. 12: LLW Radioactive Lead Solids:			
Radioactive Contaminated Lead	25.20	D008	Lead Decontamination and Recycle/ Macroencapsulation.
Radioactively Contaminated Lead	9.57	D008	
Lead Acid Batteries, Radioactive	0.33	D008	
Subtotal	35.10		
Treatability Group No. 5: LLW LDR Appendix IV Labpacks and LLW LDR Appendix V Labpacks:			
Chromium Trioxide Wastes	0.02	D007	Incineration followed by stabilization.
Miscellaneous Lab Wastes	0.02	D001, D003, D006, D007, D008, D010	
Subtotal	0.04		
Treatability Group No. 4: LLW TC Metal Nonignitable Organic Liquid:			
Spent GM 141 SAPC Solvent	2.00	D001, D006, D007, D008	Incineration followed by stabilization.
Heavy Metal Contaminated Oil, Radioactive	0.20	D007, D008	
Low-Level Lab Waste (Alpha Contaminated)	0.21	D006, D007, D008, D009	
Subtotal	2.41		
Treatability Group No. 8: LLW TC Metal Nonwastewaters:			
Non-Acidic Waste Solids	4.00	D008, D010	Stabilization.
Subtotal	4.00		
Treatability Group No. 11: LLW Water Reactives:			
Aluminum Fines with Sodium Hydroxide	*0.00	D003	Oxidation (Thermal, Water Reaction).
Subtotal	0.00		
Total (all treatability groups)	57.08		

* Waste is no longer generated and was treated to remove reactive characteristic. Stream is included pending results of lab analysis to verify complete removal of characteristic.

TABLE 10-2.—INEL CBC-APPLICABLE LOW LEVEL MIXED WASTE NO LONGER GENERATED

Waste stream name	EPA waste codes	Inventory as of May 8, 1992	Treatment technology
Treatability Group No. 1: LLW Ignitable Liquids-TOC > 10%:			
TRA Lab Scintillation Cocktails	D001	0.210	Incineration (followed by stabilization if necessary).
Subtotal		0.210	
Treatability Group No. 5: LLW LDR Appendix IV Labpacks:			
TAN 629 Tank Bottoms Sludge	D001, D006, D007, D008	0.020	Incineration followed by stabilization.
Subtotal		0.020	
Treatability Group No. 6: LLW TC Metal Organic Solid Debris:			
HNO3 and Lead Contaminated Filters	D002, D008, D010	3.400	Incineration followed by stabilization.
Mercury & Cadmium Contaminated Solids	D006, D009	0.200	
HTRE-3 Spill Clean-Up Material	D009	1.040	
Rad. & Lead Contaminated Debris	D008	0.060	
Subtotal		4.700	
Treatability Group No. 8: LLW TC Metal Nonwastewaters:			
HTRE-3 Contaminated Concrete Waste	D009	5.600	Stabilization.
Solidified WERF Ash	D006, D008	0.830	
TAN/IET Hot Waste Sludge	D009	2.300	
Absorbed LLW Liquids	D001, D002	318.000	
TAN Decon Heavy Metal Solids and Debris	D005, D006, D007, D008, D009, D011	0.320	
ISV Wastewater	D008	1.450	
Subtotal		328.500	
Treatability Group No. 11: LLW Ignitable and/or Water Reactives:			
Aluminum Fines Mixed W/Diatomite	D001, D003	2.500	Deactivation.
Aluminum Sludge Mixed W/Vermiculite	D001, D003	4.400	
S1G Sodium	D001, D009	0.250	
EBR I NAK	D001	0.680	
Subtotal		7.830	
Treatability Group 13: LLW TC Metal Inorganic Solid Debris:			
BA and CD Calibration Sources	D005, D006	0.004	Inorganic debris treatment.
Radioactive Sources LLW	D006	9.000	
Subtotal		9.004	
Treatability Group No. 16: LLW TC Metal Wastewaters:			
TAN 726 Waste	D006, D009	102.000	ION exchange.
IET Liquid Waste	D006, D009	0.420	
Subtotal		102.420	
Total (all Treatability Groups)		452.684	

TABLE 10-3.—INEL CBC-APPLICABLE P&U LISTED RAD CONTAMINATED CONDENSATE LOW LEVEL MIXED WASTE

TREATABILITY GROUP NO. 18: LLW UNQUANTIFIABLE P&U LISTED ORGANIC WASTEWATERS—C, N, O				Treatment technology
DOE site	Waste stream name	Annual generation rate (m^3/yr)	EPA waste codes	
INEL	P&U listed RAD contaminated condensate	11,060.00	F001, F002, F005, P022, P024, P028, P030, P073, P098, P104, P105, P106, P113, P116, P119, P120, U002, U003, U004, U007, U008, U012, U014, U019, U031, U032, U037, U044, U055, U056, U057, U070, U080, U083, U102, U103, U108, U112, U113, U122, U123, U133, U134, U138, U140, U144, U151, U154, U159, U161, U162, U165, U169, U170, U171, U182, U188, U196, U201, U204, U208, U210, U211, U215, U217, U218, U219, U220, U225, U226, U227, U228, U239, U328	Wet air oxidation or chemical oxidation followed by carbon adsorption or incineration.
	Subtotal	11,060.00		
	TOTAL (ALL TREATABILITY GROUPS)	11,060.00		

TABLE 10–4.—INEL CBC–APPLICABLE TRANSURANIC MIXED WASTE

Waste stream name	Annual generation rate (m^3/yr)	EPA waste codes
Hepa Filters	0.68	D005, D006, D007, D008, D009, D011
Heavy Metal Catch Tank Sludge	10.60	D006, D007, D008, D009, D011
Subtotal	11.28	
Total	11.28	

TABLE 10–5.—INEL CBC–APPLICABLE TRANSURANIC MIXED WASTE NO LONGER GENERATED

Waste stream name	Annual generation rate (m^3/yr)	EPA waste codes	Inventory as of May 8, 1992
Absorbed TRU Liquids	0.000	D001, D002	538.000
Radioactive Sources TRU	0.000	D008	9.000
Total			547.000

TABLE 10–6.—INEL CBC-APPLICABLE HIGH LEVEL MIXED WASTE

Waste stream name	Annual generation rate (m^3/yr)	EPA waste codes
High-level waste calcine	465.00	D005, D006, D007, D008, D009, D011
High-level liquid waste	2,500.00	D005, D006, D007, D008, D009, D010, D012
Subtotal	2,965.00	
Total	2,965.00	

TABLE 10–7.—INEL MIXED WASTE CONTAINER STORAGE FACILITIES

Facility name	Building No.	Design capacity (m^3)
Container storage area	TAN 628	49.00
Haz. chemical & rad. waste storage	CPP 1619	46.00
Rad mixed waste storage facility	CPP 1617	510.00
Mixed waste storage facility (includes portable storage units)	PER 613	365.00
RWMC	TSA 1, TSA R, TSA 2, TSA 3, ILTSF, waste storage facility	224,900.00
WERF waste storage facility	PER 626	266.00
Tan 647 prepp storage	TAN 647	104.00
Total		226,240.00

TABLE 10–8.—INEL HEPA FILTER STORAGE FACILITIES

Facility name	Building No.	Design capacity (m^3)
NWCF HEPA filter storage	CPP 659	56.00
Fast HEPA filter storage	CPP 666	25.00
NWCF HEPA filter waste pile	CPP 659	85.00
Waste calcining facility HEPA filter storage	CPP 633	1.00
Total		167.00

TABLE 10–9.—INEL HIGH LEVEL MIXED WASTE STORAGE TANKS

Facility name	Building No.	Design capacity (m^3)
High-level waste tank	WM 100	70.00
High-level waste tank	WM 101	70.00
High-level waste tank	WM 102	70.00
High-level waste tank	WM 103	114.00
High-level waste tank	WM 104	114.00
High-level waste tank	WM 105	114.00
High-level waste tank	WM 106	114.00

TABLE 10–9.—INEL HIGH LEVEL MIXED WASTE STORAGE TANKS—Continued

Facility name	Building No.	Design capacity (m^3)
High-level waste tank	WM 180	1,204.00
High-level waste tank	WM 181	1,204.00
High-level waste tank	WM 182	1,136.00
High-level waste tank	WM 183	1,136.00
High-level waste tank	WM 184	1,136.00
High-level waste tank	WM 185	1,136.00
High-level waste tank	WM 186	1,136.00
High-level waste tank	WM 187	1,136.00
High-level waste tank	WM 188	1,136.00
High-level waste tank	WM 189	1,136.00
High-level waste tank	WM 190	1,136.00
High-level waste tank	WL 101	70.00
Total		13,368.00

TABLE 10–10.—INEL HIGH LEVEL MIXED WASTE CALCINE BIN STORAGE FACILITIES

Facility Name	Building No.	Design capacity (m^3)
Calcine solid storage facility	CPP 729	221.00
Calcine solid storage facility	CCP 742	918.00
Calcine solid storage facility	CCP 746	1,132.00
Calcine solid storage facility	CCP 760	501.00
Calcine solid storage facility	CCP 765	1,000.00
Calcine solid storage facility	CCP 791	1,558.00
Calcine solid storage facility	CCP 795	1,784.00
Total		7,114.00

In the application, DOE has provided information on the generation rates and stored inventories of the high level calcine waste. For the calcine bins, DOE stated the capacity to be 7,114 m^3. Inventories are projected to be on May 8, 1992, 4239 m^3; on May 8, 1993, 4,704 m^3; and on May 8, 1994, 5,169 m^3. DOE's evaluation shows that INEL will have sufficient calcine bin storage capacity for this CBC-applicable high level calcine mixed waste during the course of the extension period (May 8, 1992 to May 8, 1993) and the anticipated extension renewal period (May 8, 1993 to May 8, 1994).

Based on the above information, EPA believes that DOE has met the requirements of Demonstration 40 CFR 268.5(a)(6) for INEL.

11. Inhalation Toxicology Research Institute (ITRI); Albuquerque, New Mexico

The Inhalation Toxicology Research Institute (ITRI) is located on Kirkland Air Force Base near the southern site boundary on DOE-managed property. ITRI conducts short-term and long-term inhalation exposure studies of the effects of various toxic and carcinogenic substances. The ITRI facility consists of laboratories, sanitary sewage lagoons, and inactive radioactive waste management units. ITRI is seeking an extension to the effective date for one no longer generated CBC-applicable low level mixed waste stream accumulated at ITRI as shown in Table 11–1.

TABLE 11–1.—ITRI CBC-APPLICABLE LOW LEVEL MIXED WASTE NO LONGER GENERATED

Waste stream name	EPA waste codes	Inventory as of May 8, 1992	Treatment technology
Treatability Group No. 1: LLV Ignitable Liquids—TOC >10%-			
Radioactive toxics waste	D001	0.900	Incineration (followed by stabilization if necessary)
Subtotal		0.900	
Total (all treatability groups)		0.900	

a. *Waste stream and treatment information.* ITRI currently manages one CBC-applicable low level mixed waste which is considered CBC-applicable even though DOE projects it will not be generated after May 8, 1992. The reason for including this mixed waste is that DOE believes it may need to be managed in a manner that constitutes removal from storage during the extension period and therefore becomes subject to the LDR storage prohibition. This mixed waste is referred to as no longer generated mixed waste; ITRI does not currently manage any CBC-applicable high level mixed wastes or transuranic mixed wastes. As shown in Table 11–1, the one CBC-applicable low level mixed waste falls into one treatability group which in turn corresponds to one treatment technology.

b. *Demonstration 40 CFR 268.5(a)(6).* DOE states that ITRI is not a treatment, storage, and disposal facility; it is regulated under RCRA as a generator only. ITRI has shipped its CBC-applicable mixed waste to a commercial vendor who is planning to treat the waste to separate the radiological and hazardous (i.e., ignitable) components. If successful, ITRI will be able to manage the radiological component as a

nonhazardous low level mixed waste and manage the hazardous component as a nonradioactive waste in commercial treatment facilities. Under such circumstances, no on-site storage is necessary for this mixed waste. DOE is seeking a case-by-case extension for ITRI in the event the planned separation is unsuccessful. As a contingency measure, DOE plans to utilize other sites that have adequate capacity to store ITRI's CBC-applicable mixed waste during the course of the extension period (May 8, 1992 to May 8, 1993) and the anticipated extension renewal period (May 8, 1993 to May 8, 1994). Since the volume of CBC-applicable mixed waste accumulated at this site is relatively small and since DOE has shown that it has excess capacity at a number of the other sites to store this mixed waste, EPA believes DOE has met the requirements of Demonstration 40 CFR 268.5(a)(6) for ITRI.

12. K–25 Plant (K–25); Oak Ridge, Tennessee

K–25 occupies a 1,500-acre site adjacent to the Clinch River, approximately 10 miles west of downtown Oak Ridge, Tennessee. The primary function of K–25, until August 1985, was the enrichment of uranium (in the form of uranium hexafluoride) in the uranium-235 isotope for use as fuel in nuclear plants. K–25 now has a multi-purpose mission that includes being the location of many contractor central staff functions, operating waste treatment facilities, serving as center for applied waste treatment facilities, serving as a center for applied technology, and supporting the development of the Advanced Vapor Laser Isotope Separation uranium enrichment technology. K–25 is seeking an extension to the effective date for five CBC-applicable low level mixed waste streams that are generated and stored at K–25 as shown in Tables 12–1 and 12–2.

a. *Waste stream and treatment information.* K–25 currently generates one CBC-applicable low level mixed waste having a generation rate of 4.0 m^3/yr. The other four low level mixed wastes are classified as CBC-applicable even though DOE projects they will not be generated after May 8, 1992. The reason for including these mixed wastes is that DOE believes they may need to be managed in a manner that constitutes removal from storage during the extension period and therefore become subject to the LDR storage prohibition. These mixed wastes are referred to as no longer generated mixed wastes; K–25 does not currently generate any CBC-applicable high level mixed wastes or transuranic mixed wastes.

The five CBC-applicable low level mixed wastes fall into five treatability groups which in turn correspond to three treatment technologies. The treatability groups, generation rates, and waste codes are shown in Table 12–1 for low level mixed wastes that will be generated after May 8, 1992. Treatability groups, waste codes, and existing inventories for the no longer generated mixed wastes are shown in Table 12–2.

b. *Demonstration 40 CFR 268.5(a)(6).* K–25 has 17 storage facilities that will be able to accept containerized mixed wastes. DOE states that these facilities have RCRA interim status. The name, building number, and design capacity for each container storage facility are listed in Table 12–3. The total design capacity of these facilities is 38,165 m^3.

In the application, DOE has provided information on the container storage capacity needs for CBC-applicable and non-CBC-applicable mixed wastes. This information includes the annual generation rate, 1990 year-end inventory, and projected storage inventory as of May 8, 1992, for each mixed waste. In addition, the application provides estimates of the annual generation rates during the course of the extension period (May 8, 1992 to May 8, 1993) and the anticipated extension renewal period (May 8, 1993 to May 8, 1994).

In its application, DOE also stated that one mixed waste, wastewater treatment spent carbon, is generated at DOE facility Y–12 and transported to K–25 for storage. In evaluating storage capacity for K–25, DOE has included the volume of this mixed waste (217 m^3/yr). The evaluations below include this volume.

TABLE 12–1.—K–25 CBC—Applicable Low Level Mixed Waste

Waste stream name	Annual generation rate (m^3/yr)	EPA waste codes	Treatment technology
Treatability Group No. 8: LLW TC Metal Nonwastewaters:			
TSCA INCINERATOR ASH [a]	4.00	D004, D005, D006, D007, D008, D009, D010, D011, F001, F002, F003, F004, F005	Stabilization.
Subtotal	4.00		
Total (all treatability groups)	4.00		

[a] This waste stream meets the LDR treatment standards for F001 through F005 solvents.

TABLE 12–2.—K–25 CBC—Applicable Low Level Mixed Waste No Longer Generated

Waste stream name	EPA waste codes	Inventory as of May 8, 1992	Treatment technology
Treatability Group No. 7: LLW RSW PCB Solids—50 < PCS < 500: PCB Contaminated Soils with Mercury	D009, U151	20.040	Incineration (followed by stabilization if necessary.
Subtotal		20.040	
Treatability Group No. 9: LLW F006, F007, F008, F009 Wastewaters: K-1407 B & C Pond Sludges	F006	30227.000	Stabilization.
Subtotal		30227.000	
Treatability Group No. 14: LLW TC Metal Soil: Mercury Contaminated Soil	D009	230.000	Stabilization.

TABLE 12-2.—K-25 CBC—Applicable Low Level Mixed Waste No Longer Generated—Continued

Waste stream name	EPA waste codes	Inventory as of May 8, 1992	Treatment technology
Subtotal		230.000	
Treatability Group No. 12: LLW Radioactive Lead Solids: Y12 Radiogenic Lead Waste	D008	5.000	Lead decontamination and recycle/Macroencapsulation.
Subtotal		5.000	
Total (all treatability groups)		30482.04	

TABLE 12-3.—K-25 Mixed Waste Container Storage Facilities

Facility name	Building No.	Design capacity (m^3)
Concrete Block Casting and Storage	K-1417	30,110.00
Hazardous Waste Storage Facility	K-711	375.00
K-301-1 Hazardous Waste Storage Unit	K-301-1	416.40
K-301-2 Hazardous Waste Storage Unit	K-301-2	416.40
K-301 Vault 4A Hazardous Waste Stor	K-301	416.40
K-302-5 Hazardous Waste Storage Unit	K-302-5	150.00
K-303-1 Hazardous Waste Storage Unit	K-303-1	600.00
K-305 Vault 19&19B Hazardous Waste	K-305	1,740.00
K-306-1 PCP/Hazardous Waste Storage	K-306	240.00
K-306-3 Hazardous Waste Storage Unit	K-306-3	400.00
K-306-4 Hazardous Waste Storage Unit	K-306-4	500.00
K-306 Vault 23A Hazardous Waste Stor	K-306	935.60
K-309 Vault 2A Hazardous Waste Stor	K-309	397.00
K-310-1 Hazardous Waste Storage Unit	K-310-1	600.00
K-311-1 Radiogenic Lead Storage	K-311-1	13.00
K-1302 Cylinder Storage	K-1302	4.00
K-1036A Waste Oil Storage Unit	K-1036A	150.00
Total		38,165.00

In its evaluation of the required storage capacity, DOE included both CBC-applicable and non-CBC-applicable mixed wastes. Non-CBC-applicable mixed wastes (including the one mixed waste from Y-12) are factored into the DOE capacity analysis since they will be competing with CBC-applicable mixed wastes for available storage capacity. Against a total storage capacity of 38,165 m^3, DOE stated the mixed waste inventories to be on May 8, 1992, 33,504 m^3; on May 8, 1993, 34,040 m^3; and on May 8, 1994, 34,577 m^3. DOE's evaluation shows that K-25 will have sufficient container storage capacity for the six (including one from Y-12) CBC-applicable low level mixed wastes during the course of the extension period (May 8, 1992 to May 8, 1993) and the anticipated extension renewal period (May 8, 1993 to May 8, 1994). Based on the above information, EPA believes DOE has met the requirements of Demonstration 40 CFR 268.5(a)(6) for K-25.

13. Kansas City Plant (KCP); Kansas City, Missouri

The Kansas City Plant (KCP) is part of the Bannister Federal Complex located 9 miles south of downtown Kansas City, Missouri. The facility occupies approximately 136 acres, with the manufacturing operations housed in 3.2 million square feet of building space. KCP is the major producer of non-nuclear components for nuclear weapons. These include electrical/electronic, mechanical, and plastic products. Miniature electrical components include cables, printed wiring boards, transformers, coils, and microelectronic devices. KCP also stores spare parts for nuclear weapons systems. Major KCP processes include soldering, welding, bonding, lasers, robotics, cleaning, wire/sleeving preparation, encapsulation, major fabrication, semiconductor, packing, machinery, plating and surface finishing, painting and special coatings, and molding and manufacture of special chemicals. KCP is seeking extensions to the effective date for three CBC-applicable low level mixed waste streams generated and stored at KCP as shown in Table 13-1.

a. *Waste stream and treatment information.* KCP currently generates three CBC-applicable low level mixed wastes having a combined generation rate of 0.82 m^3/yr; KCP does not generate any CBC-applicable high level mixed wastes or transuranic mixed wastes. As shown in Table 13-1, the three CBC-applicable low level mixed wastes fall into two treatability groups which in turn correspond to two treatment technologies.

b. *Demonstration 40 CFR 268.5(a)(6).* KCP has one storage facility that will be able to accept containerized mixed wastes. DOE states that this facility has RCRA interim status. The name, building number, and design capacity for the container storage facility is listed in Table 13-2. The total design capacity of this facility is 22 m^3.

TABLE 13-1.—KCP CBC-APPLICABLE LOW LEVEL MIXED WASTE

Waste stream name	Annual generation rate (m^3/yr)	EPA waste codes	Treatment technology
Treatability Group No. 13: LLW TC Metal Inorganic Solid Debris:			
Electronic Assemblies (Classified)	0.10	D008, D011	Inorganic debris treatment.
Electronic Assemblies (Unclassified)	0.42	D008, D011	
Subtotal	0.52		
Treatability Group No. 12: LLW Radioactive Lead Solids:			
Equipment Sources in Lead Pigs	0.30	[redacted]	Lead Decontamination and Recycle/ Macroencapsulation.
Subtotal	0.30		
Total (all treatability groups)	0.82		

TABLE 13-2.—KCP MIXED WASTE CONTAINER STORAGE FACILITIES

Facility name	Building No.	Design capacity (m^3)
Excess and Reclamation Radioactive Waste	Test Cell #11	22.48

In the application, DOE has provided information on the container storage capacity needs for CBC-applicable and non-CBC-applicable mixed wastes. This information includes the annual generation rate, 1990 year-end inventory, and projected storage inventory as of May 8, 1992, for each mixed waste. In addition, the application provides estimates of the annual generation rates during the course of the extension period (May 8, 1992 to May 8, 1993) and the anticipated extension renewal period (May 8, 1993 to May 8, 1994).

In its evaluation of the required storage capacity, DOE included CBC-applicable and non-CBC-applicable mixed wastes. Non-CBC-applicable mixed wastes are factored into the DOE capacity analysis since they will be competing with CBC-applicable mixed wastes for available storage capacity. Against a total storage capacity of 22 m^3, DOE stated the mixed waste inventories to be on May 8, 1992, 6.2 m^3; on May 8, 1993, 7.0 m^3; and on May 8, 1994, 7.8 m^3. DOE's evaluation shows that KCP will have sufficient container storage capacity for the three CBC-applicable low level mixed wastes during the course of the extension period (May 8, 1992 to May 8, 1993) and the anticipated extension renewal period (May 8, 1993 to May 8, 1994). Based on the above information, EPA believes that DOE has met the requirements of Demonstration 40 CFR 268.5(a)(6) for KCP.

14. Knolls Atomic Power Laboratory—Kesselring Site (KAPL-KS); West Milton, New York

The Knolls Atomic Power Laboratory—Kesselring Site (KAPL-KS) is operated by the Westinghouse Electric Corporation for the U.S. Department of Energy (DOE) and is engaged in the design and development of Naval nuclear propulsion reactors. KAPL-KS is seeking extensions to the effective date for two CBC-applicable low level mixed waste streams that are generated and stored at KAPL-KS as shown in Table 14-1.

a. *Waste stream and treatment information.* KAPL-KS generates two CBC-applicable low level mixed wastes having a combined generation rate of 0.35 m^3/yr; KAPL-KS does not currently generate any CBC-applicable high level mixed wastes or transuranic mixed wastes. As shown in Table 14-1, the two CBC-applicable low level mixed wastes fall into two treatability groups which in turn correspond to two treatment technologies.

b. *Demonstration 40 CFR 268.5(a)(6).* KAPL-KS has one storage facility that will be able to accept containerized mixed waste. DOE states that this facility has RCRA interim status. The name, building number, and design capacity for the container storage facility is listed in Table 14-2. The total design capacity of this facility is 20 m^3.

TABLE 14-1.—KAPL-KS CBC-APPLICABLE LOW LEVEL MIXED WASTE

Waste stream name	Annual generation rate (m^3/yr)	EPA waste codes	Treatment technology
Treatability Group No. 12: LLW Radioactive Lead Solids:			
Lead Solids	0.30	D008	Lead decontamination and recycle/macroencapsulation.
Subtotal	0.30		
Treatability Group No. 13: LLW TC Metal Inorganic Solid Debris:			
Solid Debris	0.05	D006, D007, D008, D009, D011	Inorganic debris treatment.
Subtotal	0.05		
Total (all treatability groups)	0.35		

TABLE 14–2.—KAPL–KS MIXED WASTE CONTAINER STORAGE FACILITIES

Facility name	Building No.	Design capacity (m^3)
Mixed Waste Storage Facility	Radioactive Waste Facility	20.50
Total		20.50

In the application, DOE has provided information on the container storage capacity needs for CBC-applicable mixed wastes. This information includes the annual generation rate, 1990 year-end inventory, and projected storage inventory as of May 8, 1992, for each mixed waste. In addition, the application provides estimates of the annual generation rates during the course of the extension period (May 8, 1992 to May 8, 1993) and the anticipated extension renewal period (May 8, 1993 to May 8, 1994). KAPL–KS does not generate any non CBC-applicable mixed waste.

Against a total storage capacity of 20 m^3, DOE stated the mixed waste inventories to be on May 8, 1992, 0.5 m^3; on May 8, 1993, 0.9 m^3; and on May 8, 1994, 1.2 m^3. DOE's evaluation shows that KAPL–KS will have sufficient container storage capacity for the two CBC-applicable low level mixed wastes during the course of the extension period (May 8, 1992 to May 8, 1993) and the anticipated extension renewal period (May 8, 1993 to May 8, 1994). Based on the above information, EPA believes that DOE has met the requirements of Demonstration 40 CFR 268.5(a)(6) for KAPL–KS.

15. Knolls Atomic Power Laboratory (KAPL); Niskayuna, New York

The Knolls Atomic Power Laboratory (KAPL) is operated by the Westinghouse Electric Corporation for the U.S. Department of Energy (DOE) and is engaged in the design and development of Naval nuclear propulsion reactors. KAPL is seeking extensions to the effective date for two CBC-applicable low level mixed waste streams that are generated and stored at KAPL as shown in Table 15–1.

a. *Waste stream and treatment information.* KAPL anticipates generating two CBC-applicable low level mixed wastes having a combined generation rate of 0.10 m^3/yr; KAPL does not currently generate any CBC-applicable high level mixed wastes or transuranic mixed wastes. As shown in Table 15–1, the two CBC-applicable low level mixed wastes fall into two treatability groups which in turn correspond to two treatment technologies.

b. *Demonstration 40 CFR 268.5(a)(6).* KAPL has one storage facility that will be able to accept containerized mixed wastes. DOE states that it has RCRA interim status. The name, building number, and design capacity for the container storage facility is listed in Table 15–2. The total design capacity of this facility is 5 m^3.

TABLE 15–1.—KAPL CBC—APPLICABLE LOW LEVEL MIXED WASTE

Waste stream name	Annual generation rate (m^3/yr)	EPA waste codes	Treatment technology
Treatability Group No. 12: LLW Radioactive Lead Solids:			
Lead Solids	0.08	D008	Lead decontamination and recycle/macroencapsulation.
Subtotal	0.08		
Treatability Group No. 13: LLW TC Metal Inorganic Solid Debris:			
Solid Debris	0.02	D006, D007, D008, D009, D011	Inorganic debris treatment.
Subtotal	0.02		
Total (all treatability groups)	0.10		

TABLE 15–2.—KAPL MIXED WASTE CONTAINER STORAGE FACILITIES

Facility Name	Building No.	Design capacity (m^3)
Mixed Waste Storage Facility	H2	5.00
Total		5.00

In the application, DOE has provided information on the container storage capacity needs for CBC-applicable mixed wastes. This information includes the annual generation rate, 1990 year-end inventory, and projected storage inventory as of May 8, 1992, for each mixed waste. In addition, the application provides estimates of the annual generation rates during the course of the extension period (May 8, 1992 to May 8, 1993) and the anticipated extension renewal period (May 8, 1993 to May 8, 1994). KAPL does not generate any non CBC-applicable mixed waste.

Against a total storage capacity of 5 m^3, DOE stated the mixed waste inventories to be on May 8, 1992, 0.2 m^3; on May 8, 1993, 0.3 m^3; and on May 8, 1994, 0.4 m^3. DOE's evaluation shows that KAPL will have sufficient container storage capacity for the two anticipated CBC-applicable low level mixed wastes during the course of the extension period (May 8, 1992 to May 8, 1993) and the anticipated extension renewal period (May 8, 1993 to May 8, 1994).

Based on the above information, EPA believes that DOE has met the requirements of Demonstration 40 CFR 268.5(a)(6) for KAPL.

16. Lawrence Berkeley Laboratory (LBL); Berkeley, California

LBL is located on the grounds of the University of California at Berkeley, on the east side of San Francisco Bay and approximately 15 miles northeast of the City of San Francisco. LBL is a multi-program national laboratory operated by the University of California for the U.S. Department of Energy (DOE). The major role of the LBL is to conduct basic energy research programs such as high-energy physics, nuclear physics, heavy ion fusion, magnetic fusion energy, X-ray optics, biology, and medicine. This research is conducted at facilities including the National Center for Electron Microscopy, four large accelerators, several small accelerators, a number of radiochemical laboratories, several large gamma irradiators, and the National Tritium Labeling Facility (NTLF). LBL is seeking extensions to the effective date for five CBC-applicable low level mixed waste streams that are generated and stored at LBL as shown in Table 16–1.

a. *Waste stream and treatment information.* LBL currently generates five CBC-applicable low level mixed wastes having a generation rate of 0.28 m^3/yr; LBL does not currently generate any CBC-applicable high level or transuranic mixed wastes. As shown in Table 16–1, the five CBS-applicable low level mixed wastes fall into four treatability groups which in turn correspond to three treatment technologies.

b. *Demonstration 40 CFR 268.5(a)(6).* LBL has one storage facility that will be able to accept containerized mixed wastes. DOE states that this facility has a RCRA Part B permit. The name, building number, and design capacity for the container storage facility is listed in Table 16-2. The total design capacity of this facility is 109 m^3.

TABLE 16–1.—LBL CBC—APPLICABLE LOW LEVEL MIXED WASTE

Waste stream name	Annual generation rate (m^3/yr)	EPA waste codes	Treatment technology
Treatability Group No. 2: LLW P and U listed organic nonwastewaters:			
Scintillation fluid (U239, U220)	0.20	U239, U220	Incineration.
Subtotal	.20		
Treatability Group No. 6: LLW TC metal organic solid debris:			
Flammable solids	.02	D001	Incineration followed by stabilization.
Subtotal	.02		
Treatability Group No. 8: LLW TC metal nonwastewaters:			
Corrosive liquid (Bases)	.02	D002	Stabilization.
Subtotal	.02		
Treatability Group No. 12: LLW radioactive lead solids:			
Induced lead	.02	D008	Lead decontamination and recycle/macroencapsulation.
Radioactively contaminated lead	.02	D008	
Subtotal	.04		
Total (all treatability groups)	.28		

TABLE 16–2.—LBL MIXED WASTE CONTAINER STORAGE FACILITIES

Facility name	Building No.	Design capacity (m^3)
Hazardous Waste Handling Facility	75A	109.00
Total		109.00

In the application, DOE has provided information on the container storage capacity needs for CBC-applicable and non-CBC-applicable mixed wastes. This information includes the annual generation rate, 1990 year-end inventory, and projected storage inventory as of May 8, 1992, for each mixed waste. In addition, the application provides estimates of the annual generation rates during the course of the extension period (May 8, 1992 to May 8, 1993) and the anticipated extension renewal period (May 8, 1993 to May 8, 1994).

In its evaluation of the required storage capacity, DOE included CBC-applicable and non-CBC-applicable mixed wastes. Non-CBC-applicable mixed wastes are factored into the DOE capacity analysis since they will be competing with CBC-applicable mixed wastes for available storage capacity. Against a total storage capacity of 109 m^3, DOE stated the mixed waste inventories to be on May 8, 1992, 13.4 m^3; on May 8, 1993, 14.5 m^3; and on May 8, 1994, 15.6 m^3. DOE's evaluation shows that LBL will have sufficient container storage capacity for the five CBC-applicable low level mixed wastes during the course of the extension period (May 8, 1992 to May 8, 1993) and the anticipated extension renewal period (May 8, 1993 to May 8, 1994). Based on the above information, EPA believes that DOE has met the requirements of Demonstration 40 CFR 268.5(a)(6) for LBL.

17. Lawrence Livermore National Laboratory (LLNL); Livermore, California

LLNL, an energy and defense research facility, is located in Livermore, California. Site 300 is a high-explosive testing facility located 15 miles east of the Main Site. Functions of LLNL include: research, development, and test activities associated with the nuclear design aspects of the nuclear weapons life cycle and related national security tasks; inertial confinement fusion; magnetic fusion energy; biomedical and environmental research; laser isotope separation; energy-related research;

beam research physics; and support to a variety of Defense and other Federal agencies. Site 300 supports LLNL's primary mission in the design of nuclear weapons. Site 300 provides the ability to develop new high explosives or fabricate any high explosives from raw materials; the ability to manufacture and assemble parts for testing, test projects using high explosives, and diagnostics; and the capability to perform particle beam research. LLNL is seeking an extension to the effective date for a single CBC-applicable low level mixed waste and two CBC-applicable transuranic mixed waste streams that are generated and stored at LLNL as shown in Tables 17–1 and 17–2.

a. *Waste stream and treatment information.* LLNL currently generates both CBC-applicable low level mixed wastes and transuranic mixed wastes; LLNL does not generate any CBC-applicable high level mixed wastes. The single CBC-applicable low level mixed waste generated at LLNL has a generation rate of 5.00 m^3/yr. As shown in Table 17–1, that mixed waste falls into one treatability group which in turn corresponds to one treatment technology.

The two CBC-applicable transuranic mixed wastes generated at LLNL are presented in Table 17–2. Their combined generation rate is 4.00 m^3/yr. While DOE plans to store both low level and transuranic mixed wastes at LLNL during the extension period, DOE's long-term management strategy for transuranic mixed wastes is different than for low level mixed wastes. As discussed in section II.A.2.b.(21), DOE plans to store and manage all transuranic mixed wastes at its facilities until such time as the WIPP is able to accept the wastes.

b. *Demonstration 40 CFR 268.5(a)(6).* LLNL has eight storage facilities that will be able to accept containerized mixed wastes. DOE has stated that these facilities have RCRA interim status. The name, building number, and design capacity for each container storage facility are listed in Table 17–3. The total design capacity of these facilities is 2,318 m^3.

In the application, DOE has provided information on the container storage capacity needs for CBC-applicable and non-CBC-applicable mixed wastes. This information includes the annual generation rate, 1990 year-end inventory, and projected storage inventory as of May 8, 1992, for each mixed waste. In addition, the application provides estimates of the annual generation rates during the course of the extension period (May 8, 1992 to May 8, 1993) and the anticipated extension renewal period (May 8, 1993 to May 8, 1994).

TABLE 17–1.—LLNL CBC—APPLICABLE LOW LEVEL MIXED WASTE

Waste stream name	Annual generation rate (m^3/yr)	EPA waste codes	Treatment technology
Treatability Group No. 13: LLW TC Metal Inorganic Solid Debris:			
Classified Metal Mixed Waste	5.00	D006, D007, D008, D009	Inorganic Debris Treatment
Subtotal	5.00		
Total (All Treatability Groups)	5.00		

TABLE 17–2.—LLNL CBC—APPLICABLE TRANSURANIC MIXED WASTE

Waste stream name	Annual generation rate (m^3/yr)	EPA waste codes
Toxic Metal-Contaminated TRU Waste	1.00	D006, D007
Lead-Contaminated Solid TRU Waste	3.00	D008
Subtotal	4.00	
Total	4.00	

TABLE 17–3. LLNL MIXED WASTE CONTAINER STORAGE FACILITIES

Facility name	Building number	Design capacity (m^3)
Classified Storage Area	612–5	760.78
Building 625 East Container Storage	625 East	80.00
Area 612 Storage Area 612–1	612–1	1,087.26
Building 513 Container Storage	B–513	50.89
Area 514 Storage Area 514–2	514–2	56.43
Area 612 Receiving, Segregation, Storage	612–4	180.58
Area 514 Storage Area 514–1	514–1	53.50
Building 624 Incinerator Storage	624	40.13
Total		2,318.57

In its evaluation of the required storage capacity, DOE included both CBC-applicable and non-CBC-applicable mixed wastes. Non-CBC-applicable mixed wastes are factored into the DOE capacity analysis since they will be competing with CBC-applicable mixed wastes for available storage capacity. Against a total storage capacity of 2,318 m^3, DOE stated the mixed waste inventories to be on May 8, 1992, 388 m^3; on May 8, 1993, 499 m^3; and on May 8, 1994, 610 m^3. DOE's evaluation shows that LLNL will have sufficient container storage capacity for the one CBC-applicable low level mixed waste and two CBC-applicable transuranic mixed wastes during the course of the

extension period (May 8, 1992 to May 8, 1993) and the anticipated extension renewal period (May 8, 1993 to May 8, 1994). Based on the above information, EPA believes that DOE has met the requirements of Demonstration 40 CFR 268.5(a)(6) for LLNL.

18. Los Alamos National Laboratory (LANL); Los Alamos, New Mexico

The Los Alamos National Laboratory (LANL) occupies about 24,400 acres in Los Alamos County, 25 miles northwest of Santa Fe. Operated under contract by the University of California, LANL conducts programs in applied research in nuclear and conventional weapons development, nuclear fission and fusion, and nuclear safeguards and security. Basic science research complements and strengthens its fundamental technical capabilities. LANL is seeking extensions to the effective date for seven CBC-applicable low level mixed waste streams that are generated and stored at LANL as shown in Tables 18–1 and 18–2.

a. *Waste stream and treatment information.* LANL currently generates three CBC-applicable low level mixed wastes having a combined generation rate of 14.42 m^3/yr. The other four low level mixed wastes are classified as CBC-applicable even though DOE projects they will not be generated after May 8, 1992. The reason for including these mixed wastes is that DOE believes they may need to be managed in a manner that constitutes removal from storage during the extension period and therefore become subject to the LDR storage prohibition. These mixed wastes are referred to as no longer generated mixed wastes; LANL does not generate any CBC-applicable high level mixed wastes or transuranic mixed wastes.

The seven CBC-applicable low level mixed wastes fall into six treatability groups which in turn correspond to five treatment technologies. Treatability groups, generation rates, and waste codes are shown in Table 18–1 for the three low level mixed wastes that will be generated after May 8, 1992. Treatability groups, waste codes, and existing inventories for the no longer generated mixed wastes are shown in Table 18–2.

b. *Demonstration 40 CFR 268.5(a)(6).* LANL has 41 storage facilties, located in eight major storage groupings, that will be able to accept containerized mixed wastes. DOE states that these facilities have RCRA interim status. The name, building number, and design capacity for each container storage facility are listed in Table 18–3. The total design capacity of these facilities is 28,540 m^3.

TABLE 18–1.—LANL CBC-APPLICABLE LOW LEVEL MIXED WASTE

Waste stream name	Annual generation rate (m^3/yr)	EPA waste codes	Treatment technology
Treatability Group No. 13: LLW TC Metal Inorganic Solids Debris:			
Mercury Contaminated Pumps	0.42	D009	Inorganic debris treatment.
Subtotal	0.42		
Treatability Group No. 12: LLW Radioactive Lead Solids:			
Lead Bricks, Pigs	12.00	D008	Lead decontamination and recycle/macroencapsulation.
Subtotal	12.00		
Treatability Group No. 5: LLW LDR Appendix IV Labpacks and LLW LDR Appendix V Labpacks:			
Lab Chemicals in Labpacks	2.00	D004, D005, P029, U117, U154, U211, D228	Incineration followed by stabilization.
Subtotal	2.00		
Total (all treatability groups)	14.42		

TABLE 18–2.—LANL CBC-APPLICABLE LOW LEVEL MIXED WASTE NO LONGER GENERATED

Waste stream name	EPA waste codes	Inventory as of May 8, 1992	Treatment technology
Treatability Group No. 6: LLW TC Metal Organic Solid Debris:			
Nitrated Rags	D001	12.480	Incineration followed by stabilization.
Subtotal		12.480	
Treatability Group No. 8: LLW TC Metal Nonwastewaters:			
Cadmium Contaminated Sludge	D006	0.420	Stabilization.
Subtotal		0.420	
Treatability Group No. 11: LLW Ignitable and/or Water Reactives:			
Sodium	D003	0.110	Oxidation (thermal or water reaction).
Subtotal		0.110	
Treatability Group No. 12: LLW Radioactive Lead Solids:			
Lead Stringer	D008	0.714	Lead decontamination and recycle/macroencapsulation.
Subtotal		0.714	
Total (all treatability groups)		13.724	

TABLE 18–3.—LANL MIXED WASTE CONTAINER STORAGE FACILITIES

Facility name	Building No.	Design capacity (m^3)
TA–3	TA–3–29	70.030
TA–16	TA–16–88	1.041
TA–21	TA–21–61	20.820
TA–33	TA–33–90, TA–33–92	12.492
TA–50	TA–50–1, TA–50–114, TA–50–69, TA–50–37	205.074
TA–54	Area L	581.816
TA–54	Area G	27,004.191
TA–55	TA–55–4	645.221
Total		28,540.685

In the application, DOE has provided information on the container storage capacity needs for CBC-applicable and non-CBC-applicable mixed wastes. This information includes the annual generation rate, 1990 year-end inventory, and projected storage inventory as of May 8, 1992, for each mixed waste. In addition, the application provides estimates of the annual generation rates during the course of the extension period (May 8, 1992 to May 8, 1993) and the anticipated extension renewal period (May 8, 1993 to May 8, 1994).

In its evaluation of the required storage capacity, DOE included CBC-applicable and non-CBC-applicable mixed wastes. Non-CBC-applicable mixed wastes are factored into the DOE capacity analysis since they will be competing with CBC-applicable mixed wastes for available storage capacity. Against a total storage capacity of 28,540 m^3, DOE stated the mixed waste inventories to be on May 8, 1992, 450 m^3; on May 8, 1993, 535 m^3; and on May 8, 1994, 619 m^3. DOE's evaluation shows that LANL will have sufficient container storage capacity for the seven CBC-applicable low level mixed wastes managed during the course of the extension period (May 8, 1992 to May 8, 1993) and the anticipated extension renewal period (May 8, 1993 to May 8, 1994). Based on the above information, EPA believes that DOE has met the requirements of Demonstration 40 CFR 268.5(a)(6) for LANL.

19. Mound Plant (Mound); Miamisburg, Ohio

The Mound Plant is located within the southern city limits of Miamisburg in southwestern Ohio. The plant site occupies 306 acres in a high area overlooking Miamisburg and the Great Miami River. The surrounding area is extensively urbanized, with the Dayton metropolitan area located about 10 miles north-northeast of the installation. Mound is an integrated research, development, and production facility that performs work in support of DOE weapons and energy programs, with emphasis on explosives and nuclear technology. The main function of the plant is the manufacture of non-nuclear and tritium-containing components for nuclear weapons. Mound is seeking extensions to the effective date for two CBC-applicable low level mixed wastes and one CBC-applicable transuranic mixed waste that are generated and stored at Mound as shown in Tables 19–1, 19–2, and 19–3.

a. *Waste stream and treatment information.* Mound currently generates both CBC-applicable low level mixed wastes and transuranic mixed wastes; Mound does not generate any CBC-applicable high level mixed wastes. One CBC-applicable low level mixed waste generated at Mound has a generation rate of 0.20 m^3/yr. The other low level mixed waste is classified as CBC-applicable even though DOE projects it will not be generated after May 8, 1992. The reason for including this mixed waste is that DOE believes it may need to be managed in a manner that constitutes removal from storage during the extension period and therefore becomes subject to the LDR storage prohibition. These mixed wastes are referred to as no longer generated mixed waste.

The two CBC-applicable low level mixed wastes fall into two treatability groups which in turn correspond to two treatment technologies. Treatability groups, generation rates, and waste codes are shown in Table 19–1 for the low level mixed waste that will be generated after May 8, 1992. The treatability group, waste code, and existing inventories for the no longer generated mixed waste are shown in Table 19–2.

The CBC-applicable transuranic mixed waste is generated at the rate of 0.25 m^3/yr as shown in Table 19–3. While DOE plans to store both low level and transuranic mixed wastes at Mound during the extension period, DOE's long-term management strategy for the transuranic mixed waste is different than for the low level mixed wastes. As discussed in section II.A.2.b.(21), DOE plans to store and manage all transuranic mixed wastes at its facilities until such time as the WIPP is able to accept the wastes.

b. *Demonstration 40 CFR 268.5(a)(6).* Mound has one storage facility that will be able to accept containerized mixed wastes. DOE states this facility has RCRA interim status. The name, building number, and design capacity for the container storage facility is listed in Table 19–4. The total design capacity of this facility is 187 m^3.

TABLE 19–1.—MOUND CBC-APPLICABLE LOW LEVEL MIXED WASTE

Waste stream name	Annual generation rate (m^3/yr)	EPA waste codes	Treatment technology
Treatability Group No. 12: LLW Radioactive Lead Solids:			
Lead—LLW	0.20	D008	Lead decontamination and recycle/macroencapsulation.
Subtotal	0.20		
Total (all treatability groups)	0.20		

TABLE 19–2.—MOUND CBC-APPLICABLE LOW LEVEL MIXED WASTE NO LONGER GENERATED

Waste stream name	EPA waste codes	Inventory as of May 8, 1992	Treatment technology
Treatability Group No. 1: LLW Ignitable Liquids—TOC > 10%:			
Ethylene Dichloride—LLW	D001, D028	0.010	Incineration (followed by stabilization if necessary).
Subtotal			
Total (all treatability groups)		0.010	

TABLE 19–3.—MOUND CBC-APPLICABLE TRANSURANIC MIXED WASTE

Waste stream name	Annual generation rate (m^3/yr)	EPA waste codes
Lead-TRU	0.25	D008
Subtotal	0.25	
Total	0.25	

TABLE 19–4.—MOUND MIXED WASTE CONTAINER STORAGE FACILITIES

Facility name	Building No.	Design capacity (m^3)
Waste Material Staging Center	23	187.00

In the application, DOE has provided information on the container storage capacity needs for CBC-applicable and non-CBC-applicable mixed wastes. This information includes the annual generation rate, 1990 year-end inventory, and projected storage inventory as of May 8, 1992, for each mixed waste. In addition, the application provides estimates of the annual generation rates during the course of the extension period (May 8, 1992 to May 8, 1993) and the anticipated extension renewal period (May 8, 1993 to May 8, 1994).

In its evaluation of the required storage capacity, DOE included CBC-applicable and non-CBC applicable mixed wastes. Non-CBC-applicable mixed wastes are factored into the DOE capacity analysis since they will be competing with CBC-applicable mixed wastes for available storage capacity. Against a total storage capacity of 187 m^3, DOE stated the mixed waste inventories to be on May 8, 1992, 49 m^3; on May 8, 1993, 51 m^3; and on May 8, 1994, 52 m^3. DOE's evaluation shows that Mound will have sufficient container storage capacity for the two CBC-applicable low level mixed wastes and one CBC-applicable transuranic mixed waste during the course of the extension period (May 8, 1992 to May 8, 1993) and the anticipated extension renewal period (May 8, 1993 to May 8, 1994). Based on the above information, EPA believes that DOE has met the requirements of Demonstration 40 CFR 268.5(a)(6) for Mound.

20. Naval Reactor Facility (NRF); Idaho Falls, Idaho

The Naval Reactor Facility (NRF) is administered by the Pittsburgh Naval Reactor Office and operated by the Bettis Atomic Power Laboratory. NRF is a research and development facility for the Naval Nuclear Propulsion Program and serves as a training school for officers and crews who operate reactors for the U.S. Navy. Prototype reactors for naval surface ships and submarines were developed here. NRF is seeking extensions to the effective date for three no longer generated CBC-applicable low level mixed waste streams that are stored at NRF as shown in Table 20–1.

TABLE 20–1.—NRF CBC-APPLICABLE LOW LEVEL MIXED WASTE NO LONGER GENERATED

Waste stream name	EPA waste codes	Inventory as of May 8, 1992	Treatment technology
Treatability Group No. 6: LLW TC Metal Organic Solid Debris:			
Chromate Contaminated Rags	D007	0.200	Incineration followed by stabilization.
Subtotal		0.200	
Treatability Group No. 12: LLW Radioactive Lead Solids:			
Lead Ash	D008	0.040	Lead decontamination and recycle/macroencapsulation.
Subtotal		0.040	
Treatability Group No. 13: LLW TC Metal Inorganic Solid Debris:			
Cadmium Sheets	D006	0.020	Inorganic debris treatment.
Subtotal		0.020	
Total (all treatability groups)		0.260	

a. *Waste stream and treatment information.* NRF currently manages three CBC-applicable low level mixed wastes. These three mixed wastes are considered CBC-applicable even though DOE projects they will not be generated after May 8, 1992. The reason for including these mixed wastes is that DOE believes they may need to be

managed in a manner that constitutes removal from storage during the extension period and therefore become subject to the LDR storage prohibition. These mixed wastes are referred to as no longer generated mixed waste; NRF does not currently manage any high level mixed wastes or transuranic mixed wastes. As shown in Table 20–1, the three CBC-applicable low level mixed wastes fall into three treatability groups which in turn correspond to three treatment technologies.

b. *Demonstration 40 CFR 268.5(a)(6).* NRF uses facilities at INEL to store its containerized mixed wastes. These facilities were previously described in section 10, and DOE stated that these facilities have RCRA interim status. The name, building number, and design capacity for each container storage facility are listed in Table 10–2. The total design capacity of this facility is 226,240 m^3.

In the application, DOE has provided information on the container storage capacity needs for CBC-applicable and non-CBC-applicable mixed wastes, respectively, at NRF. This information includes the annual generation rate, 1990 year-end inventory, and projected storage inventory as of May 8, 1992, for each mixed waste. As shown in the application, no future generation of CBC-applicable or non-CBC-applicable mixed wastes is projected.

In its evaluation of the required storage capacity, DOE included both CBC-applicable and non-CBC-applicable mixed wastes. Against a total storage capacity at INEL of 226,240 m^3, DOE stated the mixed waste inventories for NRF to be on May 8, 1992, 0.28 m^3; on May 8, 1993, 0.28 m^3; and on May 8, 1994, 0.28 m^3. (As indicated in the section 10, INEL will have over 162,000 m^3 of excess storage capacity through the extension period.) DOE's evaluation shows that INEL will have adequate container storage capacity for the three NRF CBC-applicable low level mixed wastes during the course of the extension period (May 8, 1992 to May 8, 1993) and the anticipated extension renewal period (May 8, 1993 to May 8, 1994). Based on the above information, EPA believes that DOE has met the requirements for Demonstration 40 CFR 268.5(a)(6) for NRF.

21. Oak Ridge National Laboratory (ORNL); Oak Ridge, Tennessee

The Oak Ridge National Laboratory (ORNL) occupies several sites and covers approximately 2,900 acres in Melton Valley and Bethel Valley, 10 miles southwest of downtown Oak Ridge, Tennessee. ORNL's mission is to conduct applied research and engineering development in support of DOE's programs in fusion, fission, conservation, fossil, and other energy technologies, and to perform basic scientific research in selected areas of the physical and life sciences. Past research and development and waste management activities at ORNL have produced a significant number of surplus inactive facilities contaminated with low level mixed wastes and/or hazardous chemical wastes. ORNL is seeking extensions to the effective date for a total of 14 CBC-applicable low level mixed wastes and two CBC-applicable transuranic mixed waste streams that are generated and stored at ORNL as shown in Tables 21–1, 21–2, 21–3, and 21–4.

a. *Waste stream and treatment information.* ORNL currently generates 13 CBC-applicable low level mixed wastes and one transuranic mixed waste; ORNL does not generate any CBC-applicable high level mixed wastes. The 13 CBC-applicable low level mixed wastes generated at ORNL have a combined generation rate of 9.186 m^3/yr. The other low level and transuranic mixed waste are classified as CBC-applicable even though DOE projects they will not be generated after May 8, 1992. The reason for including these mixed wastes is that DOE believes they may need to manage in a manner that constitutes removal from storage during the extension period and therefore become subject to the LDR storage prohibition. These mixed wastes are referred to as no longer generated mixed wastes.

The 14 CBC-applicable low level mixed wastes fall into nine treatability groups which in turn correspond to five treatment technologies. Treatability groups, generation rates, and waste codes are shown in Table 21–1 for the low level mixed wastes that will be generated after May 8, 1992. Treatability groups, waste codes, and existing inventories for the one no longer generated low level mixed waste is shown in Table 21–2.

The one currently generated CBC-applicable transuranic mixed waste has a generation rate of 40.00 m^3/yr as shown in Table 21–3. EPA waste codes and the May 8, 1992 inventory for the no longer generated transuranic mixed waste are given in Table 21–4. While DOE plans to store both low level and transuranic mixed wastes at ORNL during the extension period, DOE's long-term management strategy for transuranic mixed wastes is different than for low level mixed wastes. As discussed in section II.A.2.b.(21), DOE plans to store and manage all transuranic mixed wastes at its facilities, until such time as the WIPP is able to accept the wastes.

b. *Demonstration 40 CFR 268.5(a)(6).* ORNL has five storage facilities that will be able to accept containerized mixed wastes. DOE states that four facilities have RCRA interim status and one building, 7855, has a RCRA Part B permit. The name, building number, and design capacity for each container storage facility are listed in Table 21–5. The total design capacity of these facilities is 1,041 m^3.

TABLE 21–1.—ORNL CBC—APPLICABLE LOW LEVEL MIXED WASTE

Waste stream name	Annual generation rate (m^3/yr)	EPA waste codes	Treatment technology
Treatability Group No. 1: LLW Ignitable Liquids [1]—TOC > 10%:			
Flammable Liquids	7.280	D001	Incineration (followed by stabilization if necessary).
Subtotal	7.280		
Treatability Group No. 8: LLW TC Metal Nonwastewaters:			
Barium	0.010	D005	Stabilization.
Cadmium	0.300	D006	
Corrosives—Liquids (Bases)	0.200	D002	
Corrosives—Solids (Bases)	0.010	D002	
Subtotal	0.520		
Treatability Group No. 6: LLW TC Metal Organic Solid Debris:			
Flammable Solids	0.770	D001	Incineration followed by stabilization.

TABLE 21-1.—ORNL CBC—APPLICABLE LOW LEVEL MIXED WASTE—Continued

Waste stream name	Annual generation rate (m^3/yr)	EPA waste codes	Treatment technology
Subtotal	0.770		
Treatability Group No. 12: LLW Radioactive Lead Solids:			
Lead	0.480	D008	Lead decontamination and recycle/macroencapsulation.
Subtotal	0.480		
Treatability Group No. 5: LLW LDR Appendix IV Labpacks and LLW LDR Appendix V Labpacks:			
Benzene	0.010	U019	Incineration.
Subtotal	0.010		
Treatability Group No. 3: LLW Unquantifiable P&U Listed Organic Nonwastewaters:			
Methanol (Methyl Alchol)	0.050	U154	Incineration.
7,12-Dimethylbenzanthracene	0.005	U094	
Subtotal	0.055		
Treatability Group No. 2: LLW P&U Listed Organic Nonwastewaters:			
Phenol	0.020	U188	Incineration.
Subtotal	0.020		
Treatability Group No. 11: LLW Water Reactives:			
Reactives	0.020	D003	Oxidation (thermal or water reaction).
Subtotal	0.020		
Treatability Group No. 10: LLW P&U Listed Inorganic Cyanide Nonwastewaters:			
Cyanide	0.001	D003, P029	Cyanide destruction (followed by stabilization of metals if necessary).
Subtotal	0.001		
Total (All Treatability Groups)	9.186		

TABLE 21-2.—ORNL CBC-APPLICABLE LOW LEVEL MIXED WASTE NO LONGER GENERATED

Waste stream name	EPA waste codes	Inventory as of May 8, 1992	Treatment technology
Treatability Group No. 8: LLW TC Metal Nonwastewaters:			
Inactive Waste Storage Tank Contents—C	D006, D007, D008, D009	0.060	Stabilization.
Subtotal		0.060	
Total (all treatability groups)		0.060	

TABLE 21-3.—ORNL CBC-APPLICABLE TRANSURANIC MIXED WASTE

Waste stream name	Annual generation rate (m^3/yr)	EPA waste codes
TRU waste	40.00	D008, D009
Subtotal	40.00	
Total	40.00	

TABLE 21-4.—ORNL CBC-APPLICABLE TRANSURANIC MIXED WASTE NO LONGER GENERATED

Waste stream name	Annual generation rate (m^3/yr)	EPA waste codes	Inventory as of May 8, 1992
Inactive Waste Storage Tank Contents—D	0.000	D006,D007, D008, D009	110.000
Total			110.000

TABLE 21-5.—ORNL MIXED WASTE CONTAINER STORAGE FACILITIES

Facility name	Building No.	Design capacity (m^3)
Long-Term Hazardous Waste Storage Facility.	7854	62.41
Mixed Waste Drum Storage Pad.	7507W	51.70
TRU Retrievable Concrete Cask Stor..	7855	175.00
TRU Retrievable Drum Storage Facility.	7834	370.00
TRU Retrievable Drum Storage Facility.	7826	350.00
Total		1,041.11

In the application, DOE has provided information on the container storage capacity needs for CBC-applicable and non-CBC-applicable mixed wastes, respectively, at ORNL. This information includes the annual generation rate, 1990 year-end inventory, and projected storage inventory as of May 8, 1992, for each mixed waste. In addition, the application provides estimates of the annual generation rates during the course of the extension period (May 8, 1992 to May 8, 1993) and the anticipated extension renewal period (May 8, 1993 to May 8, 1994).

In its evaluation of the required storage capacity, DOE included CBC-applicable and non-CBC-applicable mixed wastes. Non-CBC-applicable mixed wastes are factored into the DOE capacity analysis since they will be competing with CBC-applicable mixed wastes for available storage capacity. Against a total storage capacity of 1,041 m^3, DOE stated the mixed waste inventories to be on May 8, 1992, 823 m^3; on May 8, 1993, 879 m^3; and on May 8, 1994, 935 m^3. DOE's evaluation shows that ORNL will have sufficient container storage capacity for the 14 CBC-applicable low level mixed wastes and two CBC-applicable transuranic mixed wastes during the course of the extension period (May 8, 1992 to May 8, 1993) and the anticipated extension renewal period (May 8, 1993 to May 8, 1994). Based on the above information, EPA believes that DOE has met the requirements of Demonstration 40 CFR 268.5(a)(6) for ORNL.

22. Paducah Gaseous Diffusion Plant (PGDP); Paducah, Kentucky

The mission of the Paducah Gaseous Diffusion Plant (PGDP) is the enrichment of uranium hexafluoride in the uranium-235 isotope. The gaseous diffusion process for uranium enrichment is a major part of the nuclear fuel cycle. The diffusion plant consists of four major process cascade buildings containing a total of 1,760 enriching stages; central control facilities; feed and withdrawal facilities; supporting utilities such as electrical power, compressed air, nitrogen, steam, sewage, sanitary water, and recirculating cooling water systems; maintenance shops; decontamination areas; and laboratory and administrative facilities. In addition to the enrichment plant facilities, PGDP has special facilities for the recovery and recycling of valuable metals resulting from other DOE operations. PGDP is seeking extensions to the effective date for 16 CBC-applicable low level mixed waste streams that are generated and stored at PGDP as shown in Tables 22-1 and 22-2.

a. *Waste stream and treatment information.* PGDP currently generates 11 CBC-applicable low level mixed wastes having a combined generation rate of 28.44 m^3/yr. The other five low level mixed wastes are classified as CBC-applicable even though DOE projects they will not be generated after May 8, 1992. The reason for including these mixed wastes is that DOE believes they may need to be managed in a manner that constitutes removal from storage during the extension period and therefore become subject to the LDR storage prohibition. These mixed wastes are referred to as no longer generated mixed wastes; PGDP does not generate any CBC-applicable high level mixed wastes or transuranic mixed wastes.

The 16 CBC-applicable low level mixed wastes fall into seven treatability groups which in turn correspond to four treatment technologies. Treatability groups, generation rates, and waste codes are shown in Table 22-1 for low level mixed wastes that will be generated after May 8, 1992. Treatability groups, waste codes, and existing inventories for the no longer generated mixed wastes are shown in Table 22-2.

b. *Demonstration 40 CFR 268.5(a) (6).* PGDP has four storage facilities that will be able to accept containerized mixed wastes. DOE states that these facilities are RCRA Part B permitted. The name, building number, and design capacity for each container storage facility are listed in Table 22-3. The total design capacity of these facilities is 2,676 m^3.

TABLE 22-1.—PGDP CBC—APPLICABLE LOW LEVEL MIXED WASTE

Waste stream name	Annual generation rate (m^3/yr)	EPA waste codes	Treatment technology
Treatability Group No. 1: LLW Ignitable Liquids—TOC>10%:			
TEHP Solution	0.30	D001	Incineration (followed by stabilization if necessary).
Subtotal	0.30		
Treatability Group No. 8: LLW TC Metal Nonwastewaters:			
EP Toxic Sludges (Gold Dissolver & U.P.)	1.10	D006, D008	Stabilization.
Magnesium Fluoride Pellets	0.60	D007	
Vacuum Dust	0.20	D008, D010	
Subtotal	2.10		
Treatability Group No. 13: LLW TC Metal Inorganic Solid Debris:			
Miscellaneous Mercury Contam. Solid	0.02	D009	Inorganic debris treatment.
Brass Chips, Turnings	0.60	D009	
Glass Beads—EP Toxic Mixed	0.42	D006, D008	
Subtotal	1.04		
Treatability Group No. 6: LLW TC Metal Organic Solid Debris:			
Mixed Corrosive Waste—Filters	0.50	D002, D006, D007, D008	Incineration followed by stabilization.
Subtotal	0.50		
Treatability Group No. 12: LLW Radioactive Lead Solids:			
Miscellaneous Lead Solids	0.20	D008	Lead decontamination and recycle/macroencapsulation.

TABLE 22-1.—PGDP CBC—APPLICABLE LOW LEVEL MIXED WASTE—Continued

Waste stream name	Annual generation rate (m^3/yr)	EPA waste codes	Treatment technology
Subtotal	0.20		
Treatability Group No. 4: LLW TC Metal Nonignitable Organic Liquid:			
Uranium Contam. Waste Oils Mixed EP Tox	22.10	D008, D009	Incineration followed by stabilization.
Subtotal	22.10		
Treatability Group No. 7: LLW RMW PCB Solids 50 ppm<PCB<500 ppm:			
Laboratory Samples	0.20	D007	Incineration (followed by stabilization if necessary).
Subtotal	0.20		
Total (all treatability groups)	26.44		

TABLE 22-2.—PGDP CBC—APPLICABLE LOW LEVEL MIXED WASTE NO LONGER GENERATED

Waste stream name	EPA waste codes	Inventory as of May 8, 1992	Treatment technology
Treatability Group No. 1: LLW Ignitable Liquids—TOC > 10%:			
Mineral Spirits	D001	0.210	Incineration (followed by stabilization if necessary).
Subtotal		0.210	
Treatability Group No. 8: LLW TC Metal Nonwastewaters:			
Ash Receiver Residue	D004, D007	464.100	Stabilization.
Sodium Dichromate	D007	0.200	
Sodium Hydroxide	D002	0.200	
Oxalic Acid	D002	0.000	
Subtotal		464.500	
Total (all treatability groups)		464.710	

TABLE 22-3.—PGDP MIXED WASTE CONTAINER STORAGE FACILITIES

Facility name	Building No.	Design capacity (m^3)
Hazardous Mixed Waste Storage Fac.	C-746-Q	971.237
Hazardous Waste Storage Facility	C-733	104.120
Waste Solvent Storage Area	C-746-R	41.908
TSCA Storage	C-746-A	1,559.009
Total		2,676.274

In the application, DOE has provided information on the container storage capacity needs for CBC-applicable and non-CBC-applicable mixed wastes. This information includes the annual generation rate, 1990 year-end inventory, and projected storage inventory as of May 8, 1992, for each mixed waste. In addition, the application provides estimates of the annual generation rates during the course of the extension period (May 8, 1992 to May 8, 1993) and the anticipated extension renewal period (May 8, 1993 to May 8, 1994).

In its evaluation of the required storage capacity, DOE included both CBC-applicable and non-CBC-applicable mixed wastes. Non-CBC-applicable mixed wastes are factored into the DOE capacity analysis since they will be competing with CBC-applicable mixed wastes for available storage capacity. Against a total storage capacity of 2,676 m^3, DOE stated the mixed waste inventories to be on May 8, 1992, 634 m^3; on May 8, 1993, 670 m^3; and on May 8, 1994, 706 m^3. DOE's evaluation shows that PDGP will have sufficient container storage capacity for the 16 CBC-applicable low level mixed wastes during the course of the extension period (May 8, 1992 to May 8, 1993) and the anticipated extension renewal period (May 8, 1993 to May 8, 1994). Based on the above information, EPA believes that DOE has met the requirements of Demonstration 40 CFR 268.5(a)(6) for PDGP.

23. Pantex Plant (Pantex): Amarillo, Texas

The Pantex Plant is located on a 16,000 acre tract of land 17 miles northeast of Amarillo, Texas. Pantex is engaged in the assembly, disassembly, modification, and repair of nuclear weapons. The plant is also engaged in the development, fabrication, surveillance, testing, and disposal of chemical explosives. Pantex is seeking an extension to the effective date for two CBC-applicable low level mixed waste streams that are generated and stored at Pantex as shown in Tables 23-1 and 23-2.

a. *Waste stream and treatment information.* Pantex currently generates one CBC-applicable low level mixed waste having a generation rate of 4.0 m^3/yr. The other low level mixed waste is classified as CBC-applicable even though DOE projects it will not be generated after May 8, 1992. The reason for including this mixed waste is that DOE believes it may need to be managed in a manner that constitutes removal from storage during the extension period and therefore becomes subject to the LDR storage prohibition. This mixed waste is referred to as no longer generated mixed waste; Pantex

does not generate any CBC-applicable high level mixed wastes or transuranic mixed wastes.

The two CBC-applicable low level mixed wastes fall into two treatability groups which in turn correspond to two treatment technologies. The treatability group, generation rate, and waste code are shown in Table 23–1 for the low level mixed waste that will be generated after May 8, 1992. The treatability group, waste code, and existing inventory for the no longer generated mixed waste are shown in Table 23–2.

b. *Demonstration 40 CFR 268.5(a)(6).* Pantex has 12 storage facilities that will be able to accept containerized mixed wastes. DOE states that these facilities have RCRA Part B permits. The name, building number, and design capacity for each container storage facility are listed in Table 23–3. The total design capacity of these facilities is 1,483 m ^{3}.

TABLE 23–1.—PANTEX CBC—APPLICABLE LOW LEVEL MIXED WASTE

Waste stream name	Annual generation rate (m^3/yr)	EPA waste codes	Treatment technology
Treatability Group No. 13: LLW TC Metal Inorganic Solid Debris:			
Mercury Contaminated Metal	4.0	D007, D008, D009	Inorganic debris treatment.
Subtotal	4.0		
Total (all treatability groups)	4.0		

TABLE 23–2.—PANTEX CBC—APPLICABLE LOW LEVEL MIXED WASTE NO LONGER GENERATED

Waste stream name	EPA waste codes	Inventory as of May 8, 1992	Treatment technology
Treatability Group No. 1: LLW Ignitable Liquids—TOC > 10%:			
Scintillation Fluids Using Biofluor	D001	3.740	Incineration (followed by stabilization if necessary).
Total (all treatability groups)		3.740	

TABLE 23–3.—PANTEX MIXED WASTE CONTAINER STORAGE FACILITIES

Facility name	Building No.	Design capacity (m^3)
Munitions Igloo	4–19B	38.00
Igloo	4–50	421.00
Conex Container	WM1	24.00
Conex Container	WM2	24.00
Conex Container	WM3	24.00
Conex Container	WM4	24.00
Conex Container	WM5	24.00
Conex Container	WM6	24.00
Conex Container	WM7	24.00
Conex Container	WM8	24.00
Classified Storage Building (Proposed)	16–16	416.00
Non-Classified Storage Building (Proposed)	16–17	416.00
Total		1,483.00

In the application, DOE has provided information on the container storage capacity needs for CBC-applicable and non-CBC-applicable mixed wastes. This information includes the annual generation rate, 1990 year-end inventory, and projected storage inventory as of May 8, 1992, for each mixed waste. In addition, the application provides estimates of the annual generation rates during the course of the extension period (May 8, 1992 to May 8, 1993) and the anticipated extension renewal period (May 8, 1993 to May 8, 1994).

In its evaluation of the required storage capacity, DOE included both CBC-applicable and non-CBC-applicable mixed wastes. Non-CBC-applicable mixed wastes are factored into the DOE capacity analysis since they will be competing with CBC-applicable mixed wastes for available storage capacity. Against a total storage capacity of 1483 m ^{3}, DOE stated the mixed waste inventories to be on May 8, 1992, 221 m ^{3}; on May 8, 1993, 248 m ^{3}; and on May 8, 1994, 275 m ^{3}. DOE's evaluation shows that Pantex will have sufficient container storage capacity for the two CBC-applicable low level mixed wastes during the course of the extension period (May 8, 1992 to May 8, 1993) and the anticipated extension renewal period (May 8, 1993 to May 8, 1994). Based on the above information, EPA believes that DOE has met the requirements of Demonstration 40 CFR 268.5(a)(6) for Pantex.

24. Portsmouth Gaseous Diffusion Plant (PORTS); Piketon, Ohio

The Portsmouth Gaseous Diffusion Plant (PORTS) site covers 3,700 acres approximately 20 miles north of Portsmouth, Ohio. The principal on-site process at PORTS is the separation of uranium isotopes through gaseous diffusion. This process produces enriched uranium, which is used for nuclear fuel in commercial power plants and for military purposes. Ancillary processes, systems, and operations serving the enrichment process include a cooling water system, a nitrogen manufacturing plant, a sanitary water system, a sewage treatment plant, laboratory maintenance shops, and other facilities. PORTS is seeking extensions to the effective date for 10

CBC-applicable low level mixed waste streams that are generated, treated, and stored at PORTS as shown in Tables 24–1 and 24–2.

a. *Waste stream and treatment information.* PORTS currently generates eight CBC-applicable low level mixed wastes having a combined generation rate of 67.00 m^3/yr. The other two low level mixed wastes are classified as CBC-applicable even though DOE projects they will not be generated after May 8, 1992. The reason for including these mixed wastes is that DOE believes they may need to be managed in a manner that constitutes removal from storage during the extension period and therefore become subject to the LDR storage prohibition. These mixed wastes are referred to as no longer generated mixed wastes; PORTS does not generate any CBC-applicable high level mixed wastes or transuranic mixed wastes.

The 10 CBC-applicable low level mixed wastes fall into five treatability groups which in turn correspond to three treatment technologies. Treatability groups, generation rates, and waste codes are shown in Table 24–1 for low level mixed wastes that will be generated after May 8, 1992. Treatability groups, waste codes, and existing inventories for the no longer generated mixed wastes are shown in Table 24–2.

b. *Demonstration 40 CFR 268.5(a)(6).* PORTS has three operational storage facilities that are able to accept containerized mixed wastes. DOE states that two of these facilities, X–752 and X–744G, are operated under a 1989 Consent Decree with the State of Ohio and will be closed by November 1992. They will be replaced by one new unit (X–326) prior to that date. Due to this transitioning of storage facilities, only X–326 and the third existing facility (X–7725) will be operational and accepting mixed wastes through the end of the proposed extension period. The name, building number, and design capacity for each of these two container storage facilities (X–326 and X–7725), as well as for the two facilities scheduled to close, are listed in Table 24–3.

TABLE 24–1.—PORTS CBC-APPLICABLE LOW LEVEL MIXED WASTE

Waste stream name	Annual generation rate (m^3/yr)	EPA waste codes	Treatment technology
Treatability Group No. 8: LLW TC Metal Nonwasterwaters:			
Heavy Metal Sludge	25.00	D006, D008, D009	Stabilization.
Subtotal	25.00		
Treatability Group No. 13: LLW TC Metal Inorganic Solids Debris:			
Metal Turnings	15.00	D006, D008	Inorganic debris treatment.
Glass Blasting Beads	0.50	D006, D008	
Mercury Vapor Bulbs	4.00	D009	
Subtotal	19.50		
Treatability Group No. 1: LLW Ignitable Liquids—TOC > 10%			
Uranium Analyzer Solution	5.00	D001, D002	Incineration (followed by stabilization if necessary).
Paint Materials	0.50	D001	
Subtotal	5.50		
Treatability Group No. 4: LLW TC Metal Nonignitable Organic Liquid:			
Motor Cleaning	16.00	D002	Incineration follow by stabilization.
Subtotal	16.00		
Treatability Group No. 14: LLW TC Metal Soil:			
Cooling Tower Blow Down Spill	[1] 0.00	D007	Stabilization.
Subtotal	[1] 0.00		
Total (all treatability groups)	67.00		

[1] The annual generation rate of 0.00 indication sporadic generation of this waste stream. The generation rate cannot be estimated.

TABLE 24–2.—PORTS CBC-APPLICABLE LOW LEVEL MIXED WASTE NO LONGER GENERATED

Waste stream name	EPA waste codes	Inventory as of May 8, 1992	Treatment technology
Treatability Group No. 1: LLW Ignitable Liquids—TOC > 10%:			
Spill in Uranium Recovery	D001	0.800	Incineration (followed by stabilization if necessary).
Subtotal		0.800	
Treatability Group No. 8: LLW TC Metal Nonwastewaters:			
Cleaning Solutions	D002	6.00	Stabilization.
Subtotal		6.000	
Total (all treatability groups)		6.800	

TABLE 24–3.—PORTS MIXED WASTE CONTAINER STORAGE FACILITIES

Facility name	Building number	Design capacity (m^3)
Hazardous Waste Storage Facility	X–752	[a] 667.00
Mixed Waste Storage Facility	X–744G	[a] 4,566.00
Mixed Waste Storage Facility	X–326	[b] 370.59

TABLE 24–3.—PORTS MIXED WASTE CONTAINER STORAGE FACILITIES—Continued

Facility name	Building number	Design capacity (m^3)
Hazardous and Mixed Waste Storage	X–7725	20,776.09
Total		21,146.68

[a] Facility will be closed and all RMW removed by November 1992, so capacity is *not* included in total.
[b] Facility is scheduled to be operational by November 1992.

In its demonstration, DOE used the design capacity of the two facilities, X–326 and X–7725, which will be operational and accepting mixed wastes through May 1994. However, since DOE does not anticipate building X–326 to be operational until November 1992, EPA evaluated this demonstration taking into account only the design capacity of building X–7725.

In the application, DOE has provided information on the container storage capacity needs for CBC-applicable and non-CBC-applicable mixed wastes. This information includes the annual generation rate, 1990 year-end inventory, and projected storage inventory as of May 8, 1992, for each mixed waste. In addition, the application provides estimates of the annual generation rates during the course of the extension period (May 8, 1992 to May 8, 1993) and the anticipated extension renewal period (May 8, 1993 to May 8, 1994).

In its evaluation of the required storage capacity, DOE included both CBC-applicable and non-CBC-applicable mixed wastes. Non-CBC-applicable mixed wastes are factored into the DOE capacity analysis since they will be competing with CBC-applicable mixed wastes for available storage capacity. Against a total storage capacity of 20,776 m^3 (in building X–7725), DOE stated the mixed waste inventories to be on May 8, 1992, 4,231 m^3; on May 8, 1993, 4,414 m^3; and on May 8, 1994, 4,598 m^3. DOE's evaluation shows that PORTS will have sufficient container storage capacity for the 10 CBC-applicable low level mixed wastes during the course of the extension period (May 8, 1992 to May 8, 1993) and the anticipated extension renewal period (May 8, 1993 to May 8, 1994). Based on the above information, EPA believes that DOE has met the requirements of Demonstration 40 CFR 268.5(a)(6) for PORTS.

25. Rocky Flats Plant (RFP); Golden, Colorado

The Rocky Flats Plant (RFP) is located in northern Jefferson County 16 miles northwest of Denver and covers 11 square miles. RFP's primary mission is to produce plutonium and other metal components for nuclear weapons. Production activities include metalworking, fabrication and component assembly, plutonium recovery and purification, and associated quality control functions. The plant has specialized facilities for recovering nuclear components from obsolete weapons. Plant operations also include operating a chemical laboratory, performing research and development, and providing special support for other DOE facilities. RFP is seeking an extension to the effective date for 10 CBC-applicable low level mixed wastes and five CBC-applicable transuranic mixed waste streams that are generated and stored at RFP as shown in Tables 25–1, 25–2, 25–3, and 25–4.

a. *Waste stream treatment information.* RFP currently generates both CBC-applicable low level and transuranic mixed wastes; RFP does not currently generate any CBC-applicable high level mixed wastes. Eight CBC-applicable low level mixed wastes generated at RFP have a combined generation rate of 5,795.19 m^3/yr. The other two low level mixed wastes and two transuranic mixed wastes are classified as CBC-applicable even though DOE projects they will not be generated after May 8, 1992. The reason for including these mixed wastes is that DOE believes they may need to be managed in a manner that constitutes removal from storage during the extension period and therefore become subject to the LDR storage prohibition. These mixed wastes are referred to as no longer generated mixed wastes.

The 10 CBC-applicable low level mixed wastes fall into six treatability groups which in turn correspond to four treatment technologies. Treatability groups, generation rates, and waste codes are shown in Table 25–1 for the low level mixed wastes that will be generated after May 8, 1992. Treatability groups, waste codes, and existing inventories for the no longer generated mixed wastes are shown in Table 25–2.

From Table 25–1, it can be seen that of the total volume of low level mixed wastes generated, nearly all (5,784.13 m^3/yr of 5,795.19 m^3/yr) are pondcrete and saltcrete wastes. Pondcrete and saltcrete were produced when sediments and sludges were removed from solar evaporation ponds, mixed with cement, then poured into tri-wall fiberwall boxed with plastic liners to form a solidified waste. According to DOE, the cleanup efforts are completed for the largest solar pond; efforts are still needed for the remaining four ponds.

Approximately 18,500 pondcrete blocks were produced, and over 10,500 blocks were shipped to and disposed of at the Nevada Test Site. Currently, RFP stores approximately 8,000 blocks, some of which have not been properly set or have deteriorated. Because of previous processing problems, large inventories (estimated at 7,764 m^3/yr by May 8, 1992) have accumulated at RFP [1]. DOE states that samples were collected from the pondcrete blocks to verify the treatment standards as stated in the LDR regulation. The analyses verified that not all pondcrete blocks met the treatment standards.

DOE stated that RFP has issued a contract to collect and analyze representative pondcrete samples, characterize pond sludge and sediment, perform a treatability study, design a treatment scheme, clean up the remaining ponds, treat the pond sludge, and reprocess the pondcrete. This contract is available in the RCRA Docket. DOE believes that some of the existing pondcrete not only meets the LDR treatment standards but will also meet delisting criteria. DOE also believes that once the sludge is treated or failed pondcrete is reprocessed, the final pondcrete product will be eligible for a delisting petition. DOE is developing the type of data necessary to support the delisting petition. DOE believes findings to date have indicated that all wastes, once treated, will meet LDR treatment standards. These particular mixed wastes are discussed further in section b. below.

The three currently generated CBC-applicable transuranic mixed wastes

[1] These problems are described in GAO/RCED–91–31, "Problems With Cleaning Up the Solar Ponds at Rocky Flats," January 1991.

have a generation rate of 12.64 m^3/yr. As mentioned above, RFP also has two no longer generated transuranic mixed wastes in storage. Generation rates, waste codes, and inventories for the transuranic mixed wastes are given in Tables 25–3 and 25–4. While DOE plans to store both low level and transuranic mixed wastes at RFP during the extension period, DOE's long-term management strategy for transuranic mixed wastes is different than for low level mixed wastes. As discussed in section II.A.2.b.(21), DOE plans to store and manage all transuranic mixed wastes at RFP until such time as the WIPP is able to accept the wastes.

b. *Demonstration 40 CFR 268.5(a)(6).* DOE states that it will manage pondcrete and saltcrete separately from its other mixed wastes. For mixed wastes other than pondcrete and saltcrete, RFP has 16 storage facilities that will be able to accept containerized mixed wastes. DOE states that they have either RCRA interim status or RCRA Part B permits. The name, building number, and design capacity for each container storage facility (non-pondcrete and non-saltcrete) are listed in Table 25.5. The total design capacity of these facilities is 7,330 m^3.

In the application and supporting information, DOE has provided information on the container storage capacity needs for CBC-applicable and non-CBC-applicable mixed wastes (other than pondcrete and saltcrete). This information includes the annual generation rate, 1990 year-end inventory, and projected storage inventory as of May 8, 1992, for each mixed waste. In addition, the application provides estimates of the annual generation rates during the course of the extension period (May 8, 1992 to May 8, 1993) and the anticipated extension renewal period (May 8, 1993 to May 8, 1994).

In its evaluation of the required storage capacity (for other than pondcrete and saltcrete), DOE included both CBC-applicable and non-CBC-applicable mixed wastes. Non-CBC-applicable mixed wastes are factored into the DOE capacity analysis since they will be competing with CBC-applicable mixed wastes for available storage capacity. Against a total storage capacity of 7,330 m^3, DOE stated the mixed waste inventories to be on May 8, 1992, 2,285 m^3; on May 8, 1993, 2,531 m^3; and on May 8, 1994 2,776 m^3. DOE's evaluation shows that RFP will have sufficient container storage capacity for mixed waste other than pondcrete and saltcrete during the course of the extension period (May 8, 1992 to May 8, 1993) and the anticipated extension renewal period (May 8, 1993 to May 8, 1994).

In regard to pondcrete and salcrete, DOE states that it will manage these mixed wastes at three storage facilities which have either RCRA interim status or RCRA Part B permits. These facilities are the 904 Pad, Building 788, and the 750 Pad as shown in Table 25–6. The total design capacity of these three facilities is 19,803 m^3. Against this capacity, DOE stated the pondcrete/saltcrete inventories to be on May 8, 1992, 7,764 m^3; on May 8, 1993, 15,889 m^3; and on May 8, 1994, 16,473 m^3.

TABLE 25–1.—RFP CBC-APPLICABLE LOW LEVEL MIXED WASTE

Waste stream name	Annual generation rate (m^3/yr)	EPA waste codes	Treatment technology
Treatability Group No. 13: LLW TC Metal Inorganic Solids Debris:			
Ground Glass/LLW Mixed	1.50	D008, D009	Inorganic debris treatment.
Subtotal	1.50		
Treatability Group No. 6: LLW TC Metal Organic Solid Debris:			
Leaded Gloves/LLW Mixed	0.70	D008	Incineration followed by stabilization.
Leaded Gloves/Acid Contam. /LLW Mixed	0.70	D001, D002, D008	
Subtotal	1.40		
Treatability Group No. 12: LLW Radioactive Lead Solids:			
Glovebox Parts With Lead/LLW Mixed	0.46	D008	Lead decontamination and recycle/Macroencapsulation.
Lead/LLW Mixed	7.30	D008	
Heavy Metal (Non-SS) /LLW Mixed	0.40	D008	
Subtotal	8.16		
Treatability Group No. 9: LLW F006–F009 Nonwastewaters:			
Pondcrete	[b] 5200.0	F001–F003, F005–F007, F009, D006	Stabilization.[a]
Saltcrete	584.13	D006, F001–F003, F005–F007, F009	
Total (All treatability groups)	5795.19		

[a] These waste streams currently meet treatment standards for cyanides. Only stabilization of wastes is required.
[b] Pondcrete is expected to be generated only between May 1992 and May 1993.

TABLE 25–2.—RFP CBC-Applicable Low Level Mixed Waste No Longer Generated

Waste stream name	EPA waste codes	Inventory as of May 8, 1992	Treatment technology
Treatability Group No. 1: LLW Ignitable Liquids—TOC>10%:			
Absorbed Organic Waste/LLW Mixed	D001	0.040	Incineration (followed by stabilization if necessary).
Subtotal		0.040	
Treatability Group No. 8: LLW TC Metal Nonwastewaters:			
Fluidized Bed Incinerator Ash (LLW)	D007, D008, D009, F001, F002, F003, F005	0.000	Stabilization.

TABLE 25-2.—RFP CBC-Applicable Low Level Mixed Waste No Longer Generated—Continued

Waste stream name	EPA waste codes	Inventory as of May 8, 1992	Treatment technology
Subtotal		9.000	
Total (all treatability groups)		9.640	

TABLE 25-3.—RFP CBC-APPLICABLE TRANSURANIC MIXED WASTE

Waste stream name	Annual generation rate (m^3/yr)	EPA waste codes
Ground Glass/TRU Mixed	0.28	D006, D009
Lead/TRU Mixed	0.46	D008
Leaded Gloves/Acid Contaminated/TRU Mixed	11.90	D001, D008
Subtotal	12.64	
Total (all treatability groups)	12.64	

TABLE 25-4.—RFP CBC-APPLICABLE TRANSURANIC MIXED WASTE NO LONGER GENERATED

Waste stream name	Annual generation rate (m^3/yr)	EPA waste codes	Inventory as of May 8, 1992
Fluidized Bed Incinerator Ash (TRU)	0.000	D004–D011, F001–F005	1.030
Heavy Metal (non-SS/TRU) Mixed	0.000	D006,	5.620
Total			6.650

TABLE 25-5.—RFP MIXED WASTE CONTAINER STORAGE FACILITIES FOR NON-PONDCRETE AND NON-SALTCRETE WASTE STREAMS

Facility name	Building No.	Design capacity (m^3)
Unit 17 Mixed Waste Storage	777	1.25
Unit 10 Drum Storage Area	581	66.62
Unit 13 Mixed Waste Storage	664	210.27
Unit 15 Mixed Waste Storage Area	904 PAD	229.40
Unit 63 Drum Storage	371	139.16
Unit 69 Drum/Crate Storage	776	88.69
Unit 59 Crate Counting Facility	569	315.02
Unit 20 Shipping Storage Area	664	1,911.50
Unit 27 Mixed Waste Storage	776	10.41
Unit 73 TRU Drum Storage	774	15.14
Unit 11 Drum Storage	776	255.88
Unit 19 Drum Storage	374	180.45
Unit 24 Mixed Waste Storage	964	456.44
Unit 12 Drum Storage	776	38.04
Unit 28 Storage Area	889	114.69
Central Waste Storage Facility	906	3,288.00
Total		7,330.95

TABLE 25-6.—RFP MIXED WASTE PONDCRETE AND SALTCRETE STORAGE FACILITIES

Facility name	Building No.	Design capacity (m^3)
Unit 15 Mixed Waste Storage Area (the PAD)	904 PAD	8,182.00
Unit 21 Pondcrete Storage Area	708	917.52
Unit 25 Mixed Waste Storage Area	750 PAD	10,704.40
Total		19,803.92

DOE's evaluation thus shows that RFP will have sufficient storage capacity for the 10 CBC-applicable low level mixed wastes and five CBC-applicable transuranic mixed wastes during the course of the extension period (May 8, 1992 to May 8, 1993) and the anticipated extension renewal period (May 8, 1993 to May 8, 1994). Based on the above information, EPA believes that DOE has met the requirements of Demonstration 40 CFR 268.5(a)(6) for RFP.

26. Sandia National Laboratories-Albuquerque (SNLA); Albuquerque, New Mexico

The Sandia National Laboratories-Albuquerque (SNLA) occupies 2,820 acres within Kirkland Air Force Base in Albuquerque. It is a research and development laboratory, primarily dedicated to the design and testing of non-nuclear weapons. Programs include applied research on various aspects of the material and physical phenomena associated with fossil energy conversion, weapons systems development, and nuclear power generation. SNLA is seeking extensions to the effective date for 11 CBC-applicable low level mixed wastes and two CBC-applicable transuranic mixed waste streams that are generated and stored at SNLA as shown in Tables 26–1 and 26–2.

a. *Waste stream and treatment information.* SNLA currently generates both CBC-applicable low level mixed wastes and transuranic mixed wastes; SNLA does not currently generate any CBC-applicable high level mixed wastes. The 11 CBC-applicable low level mixed wastes generated at SNLA have a combined generation rate of 111.84 m^3/yr. As shown in Table 26–1, the 11 CBC-applicable low level mixed wastes fall into four treatability groups which in turn correspond to five treatment technologies.

The combined generation rate of the two CBC-applicable transuranic mixed wastes is 2.20 m^3/yr as shown in Tables 26–2. While DOE plans to store both low level and transuranic mixed wastes at SNLA during the extension period, DOE's long-term management strategy for transuranic mixed wastes is different than for low level mixed wastes. As discussed in section II.A.2.b.(21), DOE plans to store and manage all transuranic mixed wastes at its facilities until such time as the WIPP is able to accept the wastes.

b. *Demonstration 40 CFR 268.5(a)(6).* SNLA has eight storage areas that will be able to accept containerized mixed wastes. DOE states that these facilities have RCRA interim status. The name, building number, and design capacity for each container storage facility are listed in Table 26–3. The total design capacity of these facilities is 9,006 m^3.

TABLE 26–1.—SNLA CBC-APPLICABLE LOW LEVEL MIXED WASTE

Waste stream name	Annual generation rate (m^3/yr)	EPA waste codes	Treatment technology
Treatability Group No. 6: LLW TC Metal Organic Solid Debris:			
U-Contaminated Polymeric Weapons Parts	1.00	D006, D007, D008, D018, D019, D039	Incineration followed by stabilization.
Subtotal	1.00		
Treatability Group No. 11: LLW Water Reactives:			
Equip/Therm Battery Accel., Act./U-Cont.	5.00	D002, D003, D006, D007, D011	Oxidation (thermal, water reaction).
Subtotal	5.00		
Treatability Group No. 12: LLW Radioactive Lead Solids:			
Lead Bricks, Pigs or Sheets	7.00	D008	Lead decontamination and Recycle/ Macroencapsulation.
Subtotal	7.00		
Treatability Group No. 13: LLW TC Metal Inorganic Solids Debris:			
Irrad. Fac. Rad. & Misc. Sources Thirds	10.00	D008	Inorganic debris treatment.
Accelerator Program Activated Thirds	30.00	D003, D008	
Hot Cell Facility Operation Thirds—LLW	0.80	D003, D008	
Reactor/Hot Cell Facility Thirds—LLW	8.00	D003, D004, D006, D008, D009	
DP—Electronic Assemblies (H–3 Cont.)	0.04	D003, D005, D006, D007, D008	
DP—Electronic Assemblies (not H–3 Cont.)	10.00	D003, D004, D005, D006, D007, D008, D009, D010, D011	
Uranium Contaminated Equipment	20.00	D006, D008, D009, D011	
HEPA Filters and Prefilters	20.00	D006, D007, D008	Inorganic debris treatment (continued).
Subtotal	90.84		
Total (all treatability groups)	111.84		

TABLE 26–2.—SNLA CBC-APPLICABLE TRANSURANIC MIXED WASTE

Waste stream name	Annual generation rate (m^3/yr)	EPA waste codes
Hot Cell Facility Operation Thirds—TRU	0.20	D003, D008
Reactor/Hot Cell Facility Thirds—TRU	2.00	D003, D004, D006, D008, D009
Subtotal	2.20	
Total	2.20	

TABLE 26–3.—SNLA MIXED WASTE CONTAINER STORAGE FACILITIES

Facility name	Building No.	Design capacity (m^3)
Area III Aboveground Interim Storage	Area III	2,871.00
Building 819 Storage Area and Vault	819	1,135.00
Explosives Storage Igloos	6007/6011	452.00
Area V Storage Area	6580, SC–1, 8588, 8593	1,800.00
Area III	6920	250.00
Area III Explosive Igloos	Area III	548.00
Manzano Bunkers	7034, 7045, 7055, 7063, 7078, 7118	1,400.00
Area III	6502	250.00
Total		9,006.00

In the application, DOE has provided information on the container storage capacity needs for CBC-applicable and non-CBC-applicable mixed wastes. This information includes the annual generation rate, 1990 year-end inventory, and projected storage inventory as of May 8, 1992, for each mixed waste. In addition, the application provides estimates of the annual generation rates during the course of the extension period (May 8, 1992 to May 8, 1993) and the anticipated extension renewal period (May 8, 1993 to May 8, 1994).

In its evaluation of the required storage capacity, DOE included both CBC- applicable and non-CBC-applicable mixed wastes. Non-CBC-applicable mixed wastes are factored into the DOE capacity analysis since they will be competing with CBC-applicable mixed wastes for available storage capacity. Against a total storage capacity of 9,006 m^3, DOE stated the mixed waste inventories to be on May 8, 1992, 776 m^3; on May 8, 1993, 992 m^3; and on May 8, 1994, 1208 m^3. DOE's evaluation shows that SNLA will have sufficient container storage capacity for the 11 CBC-applicable low level mixed wastes and two CBC-applicable transuranic mixed wastes during the course of the extension period (May 8, 1992 to May 8, 1993) and the anticipated extension renewal period (May 8, 1993 to May 8, 1994). Based on the above information, EPA believes that DOE has met the requirements of Demonstration 40 CFR 268.5(a)(6) for SNLA.

27. Sandia National Laboratories—Livermore (SNLL); Livermore, California

The Sandia National Laboratories—Livermore (SNLL) lie about 40 miles east of San Francisco in the Livermore Valley, three miles east of Livermore City Center. SNLL, which occupies about 43 acres, consists of research and development laboratories dedicated to the design and testing of the non-nuclear components of nuclear weapons. A significant fraction of research and development at SNLL is devoted to energy-related programs in the Combustion Research Facility. Its engineering and scientific capabilities are also applied for energy research and technology development for the Department of Defense. SNLL is seeking an extension to the effective date for one CBC-applicable low level mixed waste stream that is generated and stored at SNLL as shown in Table 27–1.

a. Waste stream and treatment information. SNLL currently generates one CBC-applicable low level mixed waste having a generation rate of 0.003 m^3/yr; SNLL does not currently generate any CBC-applicable high level mixed wastes or transuranic mixed wastes. As shown in Table 27–1, the one CBC-applicable low level mixed waste falls into one treatability group which in turn corresponds to one treatment technology.

b. Demonstration 40 CFR 268.5(a)(6). SNLL has one storage facility that will be able to accept containerized mixed wastes. DOE states that this facility has RCRA interim status. The name, building number, and design capacity for the container storage facility is listed in Table 27–2. The total design capacity of this facility is 50 m^3.

In the application, DOE has provided information on the container storage capacity needs for CBC-applicable and non-CBC-applicable mixed wastes. This information includes the annual generation rate, 1990 year-end inventory, and projected storage inventory as of May 8, 1992, for each mixed waste. In addition, the application provides estimates of the annual generation rates during the course of the extension period (May 8, 1992 to May 8, 1993) and the anticipated extension renewal period (May 8, 1993 to May 8, 1994).

In its evaluation of the required storage capacity, DOE included CBC-applicable and non-CBC-applicable mixed wastes. Non-CBC-applicable mixed wastes are factored into the DOE capacity analysis since they will be competing with CBC-applicable mixed wastes for available storage capacity. Against a total storage capacity of 50 m^3, DOE stated the mixed waste inventories to be on May 8, 1992, 1.3 m^3; on May 8, 1993, 1.6 m^3; and on May 8, 1994, 2.0 m^3. DOE's evaluation shows that SNLL will have sufficient container storage capacity for the one CBC-applicable low level mixed waste during the course of the extension period (May 8, 1992 to May 8, 1993) and the anticipated extension renewal period (May 8, 1993 to May 8, 1994). Based on the above information, EPA believes that DOE has met the requirements of Demonstration 40 CFR 268.5(a)(6) for SNLL.

TABLE 27-1.—SNLL CBC-APPLICABLE LOW LEVEL MIXED WASTE

Waste stream name	Annual generation rate (m^3/yr)	EPA waste codes	Treatment technology
Treatability Group No. 8: LLW TC Metal Nonwastewaters:			
Metals with Tritium & Uranium	0.003	D006, D007, D008, D009	Stabilization.
Subtotal	0.003		
Total (All treatability groups)	0.003		

TABLE 27-2.—SNLL MIXED WASTE CONTAINER STORAGE FACILITIES

Facility name	Building No.	Design capacity (m^3)
Storage Facility	881	50.00

28. Savannah River Site (SRS); Aiken, South Carolina

The Savannah River Site (SRS) is located on 325 square miles along the Savannah River near Aiken, SC. The mission of SRS is to produce basic materials used in the fabrication of nuclear weapons, particularly tritium and plutonium. The site consists of five nuclear materials production reactors, two separation areas for processing irradiated materials, a closed heavy water extraction plant and a heavy water rework plant, a fuel and target fabrication facility, and a research and process development laboratory supporting production and cleanup operations. SRS is seeking extensions to the effective date for 24 CBC-applicable low level mixed wastes and two CBC-applicable transuranic mixed waste streams that are generated and stored at SRS as shown in Tables 28–1, 28–2, and 28–3.

a. *Waste stream and treatment information.* SRS currently generates both CBC-applicable low level mixed wastes and transuranic mixed wastes; SRS does not currently generate any CBC-applicable high level mixed wastes. Sixteen CBC-applicable low level mixed wastes generated at SRS have a combined generation rate of 1,233.431 m^3/yr. The other eight low level mixed wastes are classified as CBC-applicable even though DOE projects they will not be generated after May 8, 1992. The reason for including these mixed wastes is that DOE believes they may need to be managed in a manner that constitutes removal from storage during the extension period and therefore become subject to the LDR storage prohibition. These mixed wastes are referred to as no longer generated mixed wastes.

The 24 CBC-applicable low level mixed wastes fall into eight treatability groups which in turn correspond to five treatment technologies. Treatability groups, generation rates, and waste codes are shown in Table 28–1 for low level mixed wastes that will be generated after May 8, 1992. Treatability groups, waste codes, and existing inventories for the no longer generated mixed wastes are shown in Table 28–2.

The two CBC-applicable transuranic mixed wastes generated at SRS are presented in Table 28–3. The generation rate of the CBC-applicable transuranic mixed wastes is 24.52 m^3/yr.

While DOE plans to store both low level and transuranic mixed wastes at SRS during the extension period, DOE's long-term management strategy for transuranic mixed wastes is different than for low level mixed wastes. As discussed in section II.A.2.b.(21), DOE plans to store and manage all transuranic mixed wastes at SRS until such time as the WIPP is able to accept the wastes.

b. *Demonstration 40 CFR 268.5(a)(6).* SRS has six container storage facilities and five tank storage facilities used to manage CBC-applicable mixed wastes. DOE states that five of the container storage facilities have RCRA interim status; the sixth, building 709–2G, has a RCRA Part B permit. All tanks have RCRA interim status. The name, building number, and design capacity for each of the six container storage facilities that may be used to store CBC-applicable mixed wastes are listed in Table 28–4. The total design capacity of the container storage units is 13,760 m^3. The name, building number, and design capacity for each tank storage facility that may be used to store CBC-applicable mixed wastes are listed in Table 28–5. The total design capacity of the tank storage units is 12,983 m^3.

TABLE 28–1.—SRC CBS-APPLICABLE LOW LEVEL MIXED WASTE

Waste stream name	Annual generation Rate (m^3/yr)	EPA waste codes	Treatment technology
Treatability group No. 1: LLW ignitable liquids—TOC>10%:			
DWPF Benzene	189.000	D001, D009, D018	Incineration (followed by stabilization if necessary).
Subtotal	189.000		
Treatability group No. 6: LLW TC metal organic solid debris:			
Toxic cleanup material	.200	D004, D005, D006, D007, D008, D009, D010, D011	Incineration followed by stabilization if necessary.

TABLE 28–1.—SRC CBS-APPLICABLE LOW LEVEL MIXED WASTE—Continued

Waste stream name	Annual generation Rate (m^3/yr)	EPA waste codes	Treatment technology
Thirds waste <100nCi/g TRU radionuclides	8.100	D001, D003, D004, D006, D007–D009, D011, D018, D019, D022–D026, P012, P015, P048, P113, P120, U002, U032, U052, U080, U133, U134, U144, U151, U154, U1621, U209, U211, U220, U226, U239	
Filter paper take up rolls	15.000	F006	
Subtotal	23.300		
Treatability group No. 9: LLW F006–F009 nonwastewaters:			
Plating line slurry	189.000	F006	Stabilization.
M-Area sludge treatability samples—F006	.200	F006	
Subtotal	189.200		
Treatability group No. 12: LLW radioactive lead solids:			
LLW lead	6.000	D008	Lead decontamination and recycle/macroencapsulation.
Subtotal	6.000		
Treatability group No. 13: LLW TC metal inorganic solid debris:			
Safety/control rods	0.010	D006	Inorganic debris treatment.
Gold traps	1.850	D009	
Cadmium coated HEPA filters	8.500	D006	
Mercury-contaminated equipment	3.850	D009	
ITP filters	.710	D009, D018	
Poisoned catalyst material	.011	D009, D018	
Silver coated packing materials	1.000	D011	
Subtotal	15.931		
Treatability group No. 16: LLW TC metal wastewaters:			
SRL high activity waste	222.000	D002, D007, D008, D009, D018	Ion exchange.
SRL low activity waste	588.000	D002, D007, D008, D009,	D18
Subtotal	810.000		
Total (all treatability groups)	1,233.431		

TABLE 28–2.—SRS CBC-Applicable Low Level Mixed Waste No Longer Generated

Waste stream name	EPA waste codes	Inventory as of May 8, 1992	Treatment technology
Treatability Group No. 1: LLW Ignitable Liquids —TOC>10%			
Spent Methanol Solution	D001, D006, D010	0.140	Incineration (followed by stabilization if necessary).
Subtotal		0.140	
Treatability Group No. 6: LLW TC Metal Organic Solid Debris:			
Mark 15 Filter Paper—F006	F006	0.800	Incineration followed by stabilization.
Subtotal		0.800	
Treatability Group No. 8: LLW TC Metal Nonwastewaters:			
Plating Line Sump Material	D007	0.200	Stabilization.
Subtotal		0.200	
Treatability Group No. 9: LLW F006, F007, F008, F009 Nonwastewaters:			
Mark 15 Filter Cake—F006	F006	15.400	Stabilization.
Subtotal		15.400	
Treatability Group No. 14: LLW TC Metal Soil:			
Waste Sites/Spill Site Soil	D009	16.000	Stabilization.
Subtotal		16.00	
Treatability Group No. 13: LLW TC Metal Inorganic Solid Debris:			
Spent Filter Cartridges	D009	0.840	Inorganic Debris Treatment.
Subtotal		0.840	
Treatability Group No. 16: LLW TC Metal Wastewaters:			
Uranium and chromium in solution	D007	0.016	ION Exchange.
Mercury Contaminated Heavy Water	D009	8.950	
Subtotal		8.966	
Total (All Treatability Groups)		42.346	

TABLE 28–3.—SRS CBC-APPLICABLE TRANSURANIC MIXED WASTE

Waste stream name	Annual generation rate (m^3/yr)	EPA waste codes
Mixed TTA/Xylene	0.02	D001
Thirds TRU Wastes	24.50	D001, D003, D004, D006–D009, D011, D018, D019, D022–D026, P012, P015, P048, P113, P120, U002, U032, U052, U080, U133, U134, U144, U151, U154, U161, U209, U211, U220, U226, U239
Subtotal	24.52	

TABLE 28–4.—SRS MIXED WASTE CONTAINER STORAGE FACILITIES

Facility name	Building No.	Design capacity (m^3)
Hazardous/Mixed Waste Storage Facility	709–2G	582.00
TRU Storage Pads	PADS 1–5	4,200.00
TRU Storage Pads	PADS 6–17	7,700.00
Mixed Waste Storage Building	643–29G	120.00
Mixed Waste Storage Building	643–49G	1,041.00
Mixed Waste Storage Shed	316–M	117.00
Total		13,760.00

TABLE 28–5.—SRS MIXED WASTE TANK STORAGE FACILITIES

Facility name	Building No.	Design capacity (m^3)
M-Area PWIT/SF	341–1M	12,070.00
SRL Low Activity Waste Tanks	776–2A	127.00
SRL High Activity Waste Tanks	776–2A	127.00
OWST	200–S Area	568.00
Burial Ground Solvent Tanks	Tanks S23–S32	91.81
Total		12,983.81

In the application, DOE has provided information on the container and tank storage capacity needs for CBC-applicable and non-CBC-applicable mixed wastes, respectively, at SRS. This information includes the annual generation rate, 1990 year-end inventory, and projected storage inventory as of May 8, 1992, for each mixed waste. In addition, the application provides estimates of the annual generation rates during the course of the extension period (May 8, 1992 to May 8, 1993) and the anticipated extension renewal period (May 8, 1993 to May 8, 1994). Non-CBC-applicable mixed wastes have been factored into the DOE capacity analysis since they will be competing with CBC-applicable mixed wastes for available container and tank storage capacity.

Against a total container storage capacity of 13,760 m^3, DOE stated the mixed waste inventories to be on May 8, 1992, 7,986 m^3; on May 8, 1993, 8,060 m^3; and on May 8, 1994, 8,135 m^3. Against a total tank storage capacity of 12,983 m^3, DOE stated the mixed waste inventories to be on May 8, 1992, 6,262 m^3; on May 8, 1993, 7,450 m^3; and on May 8, 1994, 8,733 m^3.

DOE's evaluation shows that SRS will have sufficient container storage capacity for the 24 CBC-applicable low level mixed wastes and two CBC-applicable transuranic mixed wastes during the course of the extension period (May 8, 1992 to May 8, 1993) and the anticipated extension renewal period (May 8, 1993 to May 8, 1994). Based on the above information, EPA believes that DOE has met the requirements of Demonstration 40 CFR 268.5(a)(6) for SRS.

29. Weldon Springs Remedial Action Project (WELD); St. Charles, Missouri

The Weldon Springs Remedial Action Project (WELD) was developed by the U.S. Army for explosives production during World War II, and operated by the Atomic Energy Commission from 1955 to 1966 as a uranium processing plant. Production activities are no longer ongoing at the site. DOE has been the owner of the property since 1985 and is currently performing remedial activities under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). The quarry portion of the site has been listed on the CERCLA National Priorities List (NPL) since July 1987. The chemical plant and raffinate pits portion of the site have been listed on the NPL since March 1989. WELD is seeking extensions to the effective date for seven no longer generated CBC-applicable low level mixed waste streams that are stored at WELD as shown in Table 29–1.

a. *Waste stream and treatment information.* WELD currently manages seven CBC-applicable low level mixed wastes. None of these mixed wastes are currently generated. These seven mixed wastes are considered CBC-applicable even though DOE projects they will not be generated after May 8, 1992. The reason for including these mixed wastes is that DOE believes they may need to be managed in a manner that constitutes removal from storage during the extension period and therefore become subject to the LDR storage prohibition. These mixed wastes are referred to as no longer generated mixed wastes; WELD does not currently manage any high level mixed wastes or transuranic mixed wastes.

The seven CBC-applicable low level mixed wastes fall into six treatability groups which in turn correspond to three treatment technologies. Treatability groups, generation rates, and waste codes are shown in Table 29–1.

b. *Demonstration 40 CFR 268.5(a)(6).* WELD has one storage facility that will be able to accept containerized mixed wastes. DOE has stated that this facility is operated under a CERCLA exclusion permit waiver. The name, building number, and design capacity for this container storage facility is listed in Table 29–2. The total design capacity of this facility is 393 m^3.

TABLE 29–1.—WELD CBC-APPLICABLE LOW LEVEL MIXED WASTE NO LONGER GENERATED

Waste stream name	EPA waste codes	Inventory as of May 8, 1992	Treatment technology
Treatability Group No. 1: LLW Ignitable Liquids—TOC>10%:			
D001	D001	7.911	Incineration (followed by stabilization if necessary).
Subtotal		7.911	
Treatability Group No. 2: LLW P&U Listed Organic Nonwastewaters:			
U228	U228	0.416	Incineration.
Subtotal		0.416	
Treatability Group No. 6: LLW TC Metal Organic Solid Debris:			
D011	D011	0.833	Incineration followed by stabilization.
Subtotal		0.833	
Treatability Group No. 17: LLW TC Pesticides Nonwastewaters:			
D016	D016	0.208	Incineration.
Subtotal		0.208	
Treatability Group No. 8: LLW TC Metal Nonwastewaters:			
D005	D005	9.992	Stabilization.
D007	D007	2.500	
Subtotal		12.492	
Treatability Group No. 12: LLW Radioactive Lead Solids:			
D008	D008	1.249	Lead decontamination and recycle/ marcroencapsulation.
Subtotal		1.249	
Total (all treatability groups)		23.109	

TABLE 29–2.—WELD MIXED WASTE CONTAINER STORAGE FACILITIES

Facility name	Building No.	Design capacity (m^3)
RCRA Storage Area	434	392.00
Total		392.00

In the application, DOE has provided information on the container storage capacity needs for CBC-applicable and non-CBC-applicable mixed wastes. This information includes the annual generation rate, 1990 year-end inventory, and projected storage inventory as of May 8, 1992, for each mixed waste. As shown in the application, no future generation of CBC-applicable or non-CBC-applicable mixed wastes is projected. However, non-CBC-applicable mixed wastes are factored into the DOE capacity analysis since they will be competing with CBC-applicable mixed wastes for available storage capacity.

Against a total storage capacity of 392 m^3, DOE stated that the mixed waste inventories will remain constant at 60 m^3 through May 8, 1994. DOE's evaluation shows that WELD will have sufficient container storage capacity for the seven CBC-applicable low level mixed wastes during the course of the extension period (May 8, 1992 to May 8, 1993) and the anticipated extension renewal period (May 8, 1993 to May 8, 1994). Based on the above information, EPA believes that DOE has met the requirements of Demonstration 40 CFR 268.5(a)(6) for WELD.

30. West Valley Demonstration Project (WVDP); West Valley, New York

The objectives for the West Valley Demonstration Project (WVDP) are to solidify 2.2 million liters (58,000 gallons) of liquid high level mixed wastes stored at the site, develop containers for the solidified high level mixed wastes, transport the solidified high level mixed wastes to a Federal repository, and dispose of and decommission the Project facilities. The Integrated Radwaste Treatment System (IRTS) came on-line in May 1988, and the first phase of liquid high level mixed wastes treatment was completed in March 1991. Over 415,000 gallons of supernatant from the waste tanks were processed through the IRTS. WVDP is seeking extensions to the effective date for nine CBC-applicable low level mixed wastes and one CBC-applicable transuranic mixed waste that are generated and stored at WVDP as shown in Tables 30–1, 30–2, and 30–3.

a. *Waste stream and treatment information.* WVDP currently generates both CBC-applicable low level mixed wastes and transuranic mixed wastes; WVDP does not currently generate any CBC-applicable high level mixed wastes. Eight CBC-applicable low level mixed wastes generated at WVDP have a combined generation rate of 0.004 m^3/yr. The other low level mixed waste is classified as CBC-applicable even though DOE projects it will not be generated after May 8, 1992. The reason for including this mixed waste is that DOE believes it may need to be managed in a manner that constitutes removal from storage during the extension period and therefore becomes subject to the LDR storage prohibition. This mixed waste is referred to as no longer generated mixed waste.

The nine CBC-applicable low level mixed wastes fall into five treatability groups which in turn correspond to three treatment technologies. Treatability groups, generation rates, and waste codes are shown in Table 30–1 for low level mixed wastes that will be generated after May 8, 1992. The treatability group, waste code, and existing inventory for the no longer generated mixed waste is shown in Table 30–2.

The single CBC-applicable treatment mixed waste is generated at a rate of 0.01 m^3/yr as shown in Table 30–3. While DOE plans to store both low level and transuranic mixed wastes at WVDP during the extension period, DOE's long-term management strategy for transuranic mixed wastes is different than for low level mixed wastes. As discussed in section II.A.2.b.(21), DOE plans to store and manage all transuranic mixed wastes at WVDP until such time as the WIPP is able to accept the wastes.

b. *Demonstration 40 CFR 268.5(a)(6).* WVDP has five storage facilities that will be able to accept containerized mixed wastes. DOE states that the facilities have RCRA interim status. The name, building number, and design capacity for each container storage facility are listed in Table 30–4. The total design capacity of these facilities is 47,051 m^3.

TABLE 30–1.—WVDP CBC-APPLICABLE LOW LEVEL MIXED WASTE

Waste stream name	Annual generation rate (m^3/yr)	EPA waste codes	Treatment technology
Treatability Group No. 1: LLW Ignitable Liquids—TOC > 10%:			
Acetone	0.004	D001	Incineration (followed by stabilization if necessary).
Fuel and Oil	0.000	D001	
Site Decontamination Solutions	0.000	D001, D007	
Oils (Lead Containing)	0.000	D001, D008	
Subtotal	0.004		
Treatability Group No. 2: LLW P&U Listed Organic Nonwastewaters:			
Decon Solution (Methylene Chloride)	0.000	U080	Incineration.
Subtotal	0.000		
Treatability Group No. 3—LLW Unquantifiable P&U Listed Organic Nonwastewaters—C,H,O:			
Methanol	0.000	D001, U154	Incineration.
Subtotal	0.000		
Treatability Group No. 8: LLW TC Metal Nonwastewaters:			
Zinc Bromide	0.000	D002	Stabilization.
Subtotal	0.000		
Treatability Group No. 12: LLW Radioactive Lead Solids:			
Lead	0.000	D008	Lead decontamination and recycle/Macroencapsulation.
Subtotal	0.000		
Total (all treatability groups)	0.004		

TABLE 30–2.—WVDP CBC-APPLICABLE LOW LEVEL MIXED WASTE NO LONGER GENERATED

Waste stream name	EPA waste codes	Inventory as of May 8, 1992	Treatment technology
Treatability Group No. 1: LLW Ignitable Liquids—TOC > 10%:			
Unknown High TOC Organic Liquids	D001, D018	0.019	Incineration (followed by stabilization if necessary).
Subtotal		0.019	
Total (all treatability groups)		0.019	

TABLE 30–3.—WVDP CBC-APPLICABLE TRANSURANIC MIXED WASTE

Waste stream name	Annual generation rate m^3/yr)	EPA waste codes
PU Extraction Waste	0.01	D001
Subtotal	0.01	
Total (all treatability groups)	0.01	

TABLE 30–4.—WVDP MIXED WASTE CONTAINER STORAGE FACILITIES

Facility name	Building No.	Design capacity (m^3)
LAG Storage	SWMU–15	1,026.32
LAG Extension—LSA–3	SWMU–16a	22,493.51
LAG Extension—LSA–4	SWMU–16a	22,493.51
IWSF (Interim Waste Storage Facility)	SWMU–11	1,026.33
HWSL (Hazardous Waste Storage Lockers)	SWMU–24	11.56

TABLE 30-4.—WVDP MIXED WASTE CONTAINER STORAGE FACILITIES—Continued

Facility name	Building No.	Design capacity (m^3)
Total		47,051.23

In the application, DOE has provided information on the container storage capacity needs for CBC-applicable and non-CBC-applicable mixed wastes. This information includes the annual generation rate, 1990 year-end inventory, and projected storage inventory as of May 8, 1992, for each mixed waste. In addition, the application provides estimates of the annual generation rates during the course of the extension period (May 8, 1992 to May 8, 1993) and the anticipated extension renewal period (May 8, 1993 to May 8, 1994).

In its evaluation of the required storage capacity, DOE included both CBC-applicable and non-CBC-applicable mixed wastes. Non-CBC-applicable mixed wastes are factored into the DOE capacity analysis since they will be competing with CBC-applicable mixed wastes for available storage capacity. Against a total storage capacity of 47,051 m^3, DOE stated the mixed waste inventories to be on May 8, 1992, 5.0 m^3; on May 8, 1993, 5.1 m^3; and on May 8, 1994, 5.2 m^3. DOE's evaluation shows that WVDP will have sufficient container storage capacity for the nine CBC-applicable low level mixed wastes and one CBC-applicable transuranic mixed waste during the course of the extension period (May 8, 1992 to May 8, 1993) and the anticipated extension renewal period (May 8, 1993 to May 8, 1994). Based on the above information, EPA believes that DOE has met the requirements of Demonstration 40 CFR 268.5(a)(6) for WVDP.

31. Y-12 Plant (Y-12); Oak Ridge, Tennessee

The Y-12 Plant occupies an 811 acre site in the Bear Creek Valley approximately two miles from downtown Oak Ridge, Tennessee. Principal missions of the Y-12 Plant include defense responsibilities related to the production of nuclear weapons components and support to the DOE weapons design laboratories; processing of source and special nuclear materials; and providing support to other governmental agencies. Activities associated with these missions include the recovery of enriched uranium from other DOE sites, the production of lithium compounds, and the fabrication of uranium (enriched and depleted) and other materials into finished parts and assemblies. Y-12 is seeking extensions to the effective date for six CBC-applicable low level mixed waste streams that are generated and stored at Y-12 as shown in Tables 31-1 and 31-2.

a. *Waste stream and treatment information.* Y-12 currently generates five CBC-applicable low level mixed wastes having a combined generation rate of 750.02 m^3/yr. Y-12 has one other low level mixed waste in storage which is classified as CBC-applicable even though DOE projects it will not be generated after May 8, 1992. The reason for including this mixed waste is that DOE believes it may need to be managed in a manner that constitutes removal from storage during the extension period and therefore becomes subject to the LDR storage prohibition. This mixed waste is referred to as no longer generated mixed waste. Y-12 does not currently generate any CBC-applicable high level mixed wastes or transuranic mixed wastes.

The six CBC-applicable low level mixed wastes fall into five treatability groups which in turn correspond to four treatment technologies. Treatability groups, generation rates, and waste codes are shown in Table 31-1 for low level mixed wastes that will be generated after May 8, 1992. The treatability group, waste code, and existing inventory for the no longer generated mixed waste are shown in Table 31-2.

b. *Demonstration 40 CFR 268.5(a)(6).* Y-12 has 11 container storage facilities that will be able to accept containerized mixed wastes. DOE states that these facilities have RCRA interim status. The name, building number, and design capacity for each container storage facility are listed in Table 31-3. The total design capacity of these facilities is 2,044 m^3.

In addition, Y-12 has one tank farm storage facility that will be able to accept mixed wastes as shown in Table 31-4. DOE states that the tank farm is permitted under the Clean Water Act—National Pollutant Discharge Elimination System (NPDES). The total design capacity of this facility is 7,500 m^3.

In the application, DOE has provided information on the container and tank storage capacity needs for CBC-applicable and non-CBC-applicable mixed wastes. This information includes the annual generation rate, 1990 year-end inventory, and projected storage inventory as of May 8, 1992, for each mixed waste. In addition, the application provides estimates of the annual generation rates during the course of the extension period (May 8, 1992 to May 8, 1993) and the anticipated extension renewal period (May 8, 1993 to May 8, 1994). DOE stated that one mixed waste, waste water treatment spent carbon (F006), is transported to DOE facility K-25 (section 12) for storage. This mixed waste is included in the K-25 storage capacity demonstration as part of K-25 wastewater treatment sludges and spent carbon.

In its evaluation of the required storage capacity, DOE included CBC-applicable and non-CBC-applicable mixed wastes. Non-CBC-applicable mixed wastes are factored into the DOE capacity analysis since they will be competing with CBC-applicable mixed wastes for available storage capacity. For container storage, against a total capacity of 2,044 m^3, DOE stated the mixed waste inventories to be on May 8, 1992, 933 m^3; on May 8, 1993, 1,164 m^3; and on May 8, 1994, 1,395 m^3. For tank storage, against a total storage capacity of 7,500 m^3, DOE stated the mixed waste inventories to be on May 8, 1992, 6,386 m^3; on May 8, 1993, 6,999 m^3; and on May 8, 1994, 7,411 m^3.

DOE's evaluation thus shows that Y-12 will have sufficient container and tank storage capacity for the CBC-applicable low level mixed wastes during the course of the extension period (May 8, 1992 to May 8, 1993) and the anticipated extension renewal period (May 8, 1993 to May 8, 1994). Based on the above information, EPA believes that DOE has met the requirements of Demonstration 40 CFR 268.5(a)(6) for Y-12.

TABLE 31-1.—Y-12 CBC-APPLICABLE LOW LEVEL MIXED WASTE BY TREATABILITY GROUP

Waste stream name	Annual generation rate (m^3/yr)	EPA waste codes	Treatment technology
Treatability Group No. 11: LLW Water Reactives:			
Sodium-Potassium (NAK) Waste	0.02	D001, D003	Oxidation (thermal, water reaction).
Subtotal	0.02		
Treatability Group No. 8: LLW TC Metal Nonwastewaters:			
Lead Contaminated Waste	1.00	D008	Stabilization.
Subtotal	1.00		
Treatability Group No. 9: LLW F006–F009 Nonwastewaters:			
Waste Water Treatment Metal Sludges	512.00	F006	Cyanide destruction (if necessary) followed by stabilization.
Waste Water Treatment Spent Carbon	217.00	F006	
Subtotal	729.00		
Treatability Group No. 7: LLW RMW PCB Solids—50 ppm < PCB < 500 ppm:			
Mercury Contaminated Waste	20.00	D009	Incineration followed by stabilization (if necessary).
Subtotal	20.00		
Total (all treatability groups)	750.02		

TABLE 31-2.—Y-12 CBC-APPLICABLE LOW LEVEL MIXED WASTE NO LONGER GENERATED

Waste stream name	EPA waste codes	Inventory as of May 8, 1992	Treatment technology
Treatability Group No. 14: LLW TC Metal Soil:			
Cadmium Contaminated Soil	D006	153.000	Stabilization.
Subtotal		153.000	
Total (all treatability groups)		153.000	

TABLE 31-3.—Y-12 MIXED WASTE CONTAINER STORAGE FACILITIES

Facility name	Building No.	Design capacity (m^3)
Interim Drum Yard	None	213.00
RCRA Staging Area	9720–31	169.00
RCRA and Mixed Waste Storage	9720–9	171.75
Waste Oil Facility, OD–7	9811–1	775.95
Liquid Organic Waste Storage	9720–45	25.00
Waste Oil/Solvent Storage Facility	9811–6	13.30
Container Storage Facility	7820–12	104.00
RCRA and PCB Container Storage Area	None	327.80
Container Storage Area	9201–4	65.00
Waste Storage Facility	9720–25	87.40
Classified Waste Storage Facility	9720–25	92.40
Total		2,044.60

TABLE 31-4.—Y-12 MIXED WASTE TANK STORAGE FACILITIES

Facility name	Building No.	Design capacity (m^3)
West End Tank Farm	None	7,500.00

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